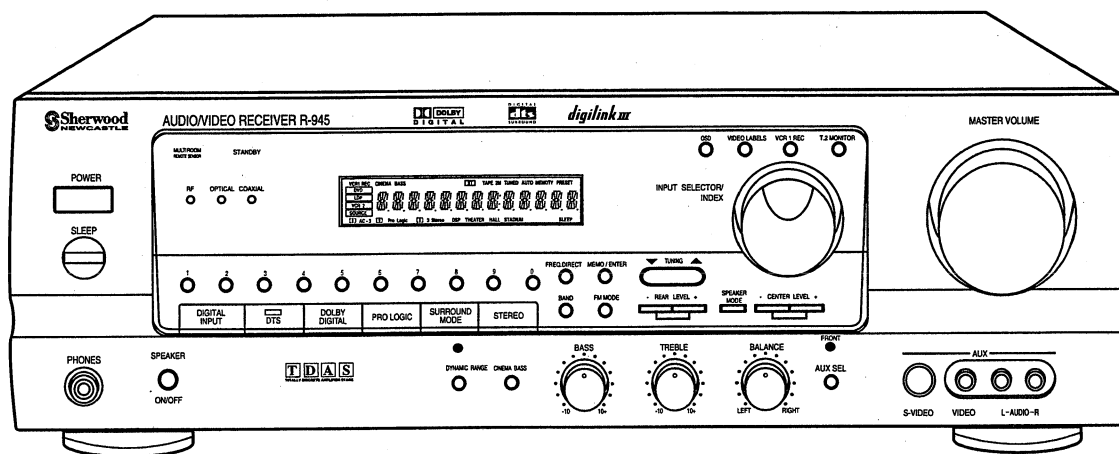


# SERVICE MANUAL

## R-945R/R-945RDS

### DOLBY DIGITAL AC-3/DTS AUDIO/VIDEO RECEIVER



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## SAFETY PRECAUTIONS

### WARNING

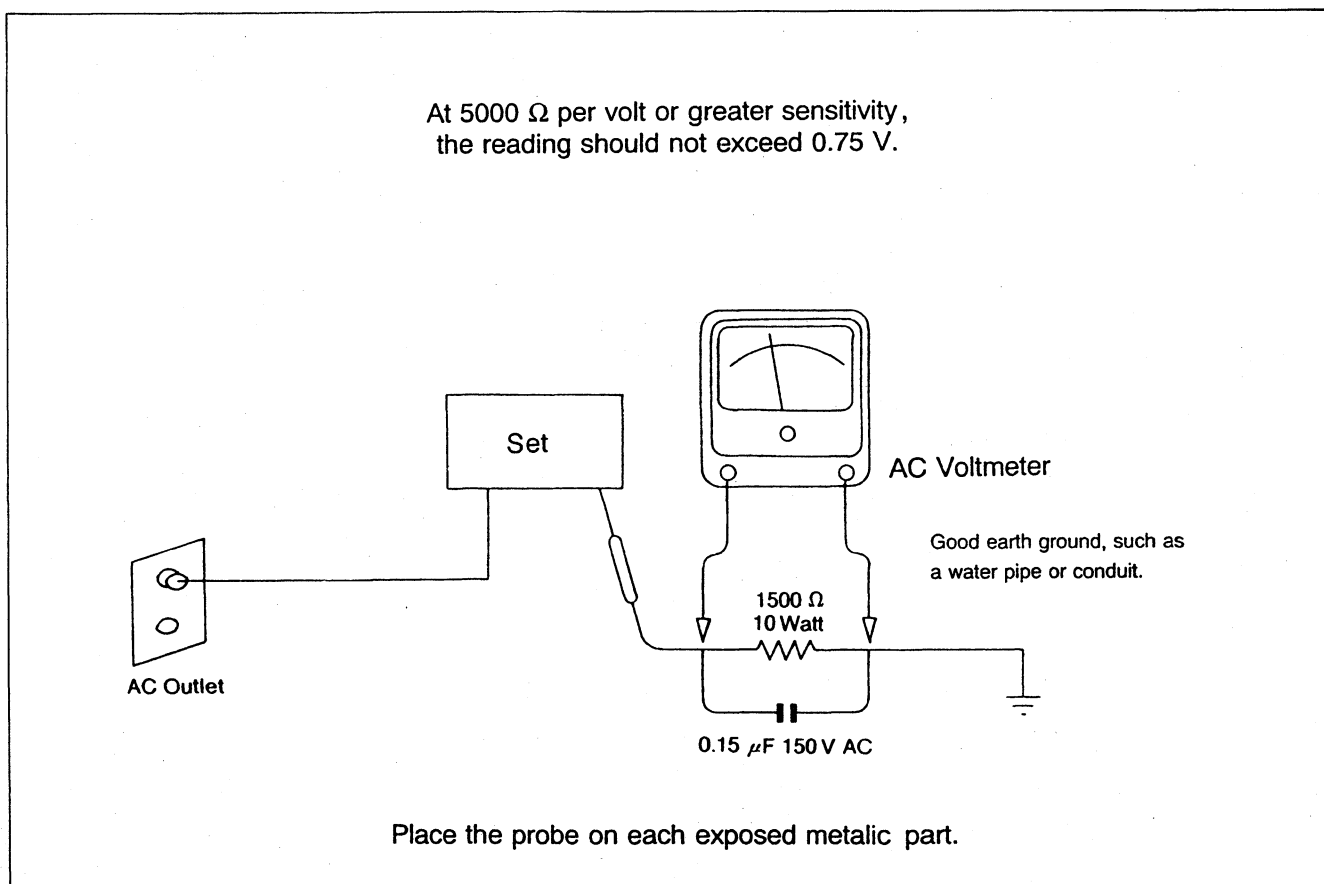
Before servicing this unit, familiarize yourself with the following precautions:

1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by ⚠ in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the

exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate danger of electrical shock. Plug the AC line cord directly into a 120 V AC outlet (120 V AC version only). (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of 5000  $\Omega$  per volt or greater. Then connect a 1500  $\Omega$  10 watt resistor, paralleled by a 0.15  $\mu$ F 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metallic is parts, one at a time. Measure the AC voltage across the combination of a 1500  $\Omega$  resistor and a 0.15  $\mu$ F capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



# SPECIFICATIONS

## FRONT AMP SECTION

Measuring methods are based on IHF and IEC standard 268-3

Measurements conditions, unless otherwise noted :

- \* Output resistive load = 8ohms / Both channel driven
- \* Tone (Bass, Treble), Balance, EQ control : Center Position, Other SW's : OFF
- \* Norminal input level : 3.5mV for MM, 0.5mV for MC. 200mV for general purpose inputs
- \* Power figures should be kept minimum 10 min. between 15 and 35°C
- \* Terminator : 100ohm for MC, 1kohm for MM and general purpose inputs
- \* Power Supply : 230V/50Hz, 120V/60Hz
- \* Filter : IHF-A filter
- \* SUB WOOFER : NO
- \* R/O : Rated Output
- \* SPKR LEVEL : ALL 0dB

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Input Sensitivity	CD	1kHz		mV	200±30	200±20
		MM	1kHz		mV	3.5±0.5	3.5±0.3
		MC	1kHz		mV		
		MIC	1kHz		mV		
2	Channel Balance	CD	1kHz	R/O TO -40dB	dB	±3	±2
3	Damping Factor	CD	1kHz				
4	Residual Noise	CD	1kHz	VOL Min	mV	≤1	
			1kHz	VOL Max	mV		
5	Total Harmonic Distortion	CD (500mV)	20Hz	R/O	%	≤0.2	≤0.09
			1kHz	"	%	≤0.2	≤0.09
			20kHz	"	%	≤0.3	≤0.2
6	Continuous Average Power at 0.2% THD	CD	20Hz	8 Ohms	W	100	102
			1kHz	"	W	100	102
			20kHz	"	W	100	102
7	IMD(SMPTE)	CD	60Hz=4	R/O	%	≤0.1	≤0.07
			7KHz=1	1W	%	≤0.1	≤0.07
8	S/N Ratio, IHF-A Filter	CD	1kHz	R/O	dB	≥88	≥93
			1kHz	1W	dB		
		MM	1kHz	R/O	dB	≥68	≥72
			1kHz	1W	dB		
		MC (0.5mV)	1kHz	R/O	dB		
			1kHz	1W	dB		
9	Channel Separation	CD	100Hz	R/O -3dB	dB	≥45	≥55
			1kHz	"	dB	≥45	≥55
			10kHz	"	dB	≥40	≥45
10	Function Crosstalk	CD → AUX	1/10kHz	R/O -3dB	dB	≥60/40	≥65/45
		CD → MM	1/10kHz	"	dB	≥55/35	≥60/40
		MM → CD	1/10kHz	"	dB	≥60/40	≥65/45
		→	1/10kHz	"	dB		
11	Frequency Response (-3dB)	CD	dB	1W	Hz~KHz	20~70	10~80
12	Tone Control ±10dB	CD	100kHz	1W	dB	±10±2	±10±1
			10kHz	"	dB	±10±2	±10±1
13	Sub Woofer Out (1ch input)	CD (200mV)	30Hz	M-Vol Max	V	1.2±0.5	1.2±0.3
14	Phono Equalization	PHONO	100Hz	Tape Out	dB	+13.1±1.5	+13.1±1
			10kHz	"	dB	-13.7±1.5	-13.7±1.5
15	HeadPhone Output H/P = 64ohms	CD (150mV)	1kHz	R/O	mV		
			1kHz	"	mV		

16	Input Overload at 0.5% THD	CD	1kHz	S/P Out	mV		
		MM	1kHz	Tape Out	mV	$\geq 120$	$\geq 140$
		MC	1kHz	"	mV		
		MIC	1kHz	"	mV		
17	FTC Power 20Hz~20kHz at ( )% THD	CD	20Hz	R/O	W		
			1kHz	"	W		
			20kHz	"	W		
18	DIN Power at 1% THD	CD	1kHz	R/O	W		
19	Dynamic Power Output 20 cycle On, 480 cycle Off	CD	1kHz	( ) ohms	W		
20	Power Bandwidth -3dB	CD		R/O	Hz~kHz		
21	Slew rate	CD	1kHz	R/O	V/usec		
22	Slew Factor	CD (500mV)					
23	Input Impedance	CD	1kHz		kohm		
		MM	1kHz		kohm		
		MC	1kHz		kohm		
		MIC	1kHz		kohm		
24	Cinema Bass (120V/60Hz Only)	CD	80Hz	1W	dB	$6 \pm 2$	$6 \pm 1$

## AM SECTION

Measuring methods in conformity with IEC standard 315

Measurements condition AM-MW : Radio frequency = 1000/999kHz, Audio frequency = 400Hz

LW : Radio frequency = 207kHz, Audio frequency = 400Hz

Reference level = 5mV/m, 10mV/m on 50ohms

\* Test Point : MW,

\* TP1= 600kHz, TP2 = 1000kHz, TP3 = 1400kHz

\* LW TP1 = 162kHz, TP2 = 207kHz, TP3 = 252kHz

NO	DESCRIPTION	UNIT	LIMIT	NOMINAL
1	Tuning Cover Range Low ~ High MW (D/K/RDS)	kHz	522~1611	
	" (A)	kHz	520~1710	
	Step (A) Auto/Man.	kHz	10	
	Step (D/K/RDS) Auto/Man.	kHz	9	
2	Usable Sensitivity MW TP1	uV/m	$\leq 800$	$\leq 500$
	S/N = 20dB TP2	uV/m	$\leq 800$	$\leq 500$
	TP3	uV/m	$\leq 800$	$\leq 500$
3	S/N Ratio (A/D/RDS) MW	dB	$\geq 35$	$\geq 40$
	S/N Ratio (K)	dB	$\geq 40$	$\geq 45$
4	Total Harmonic Distortion (D/K/RDS)	%	$\leq 1.5$	$\leq 1.0$
	" (A)	%	$\leq 2$	$\leq 1.0$
5	Over Load Distortion 5mV 80% MOD.	%	$\leq 10$	$\leq 5$
6	Frequency Response at -6dB MM	Hz	100~2K	80~2.2K
7	Selectivity 10kHz/9kHz MW	dB	$\geq 20$	$\geq 25$
8	AGC Figure of merit Input = 100mV, -10dB	dB	$\geq 50$	$\geq 55$
9	Image Rejection MW = TP3	dB	$\geq 30$	$\geq 35$
10	Whistle Modulation Input=1mV/m 21F	%	$\leq 15$	$\leq 10$
11	Auto Stop Level	uV/m	800( $\pm 6$ dB)	800( $\pm 5$ dB)
12	Tuned Level	uV/m	800( $\pm 6$ dB)	800( $\pm 5$ dB)
13	Output Level (D/A/RDS)	mV	$150 \pm 50$	$150 \pm 30$
	Output Level (K)	mV	$120 \pm 50$	$120 \pm 30$



## FM SECTION

Measuring methods in conformity with IEC standard 315

Measurements condition Audio frequency = 1KHz

\* Reference level = 1mV on (75 $\Omega$ )

FM : Radio frequency = 98.0MHz,

\* FM : Radio frequency = 98.0MHz (D/RDS), Radio frequency = 98.1MHz (A/K)

\* Deviation : Mono =  $\pm 75\text{KHz}$ , Stereo =  $\pm 67.5\text{KHz} \pm 7.5\text{KHz}$  (A,K)

Mono =  $\pm 40\text{KHz}$ , Stereo =  $\pm 40\text{KHz} \pm 7.5\text{KHz}$  (D/RDS)

\* Test Point : TP 1 = 90.1MHz, TP2 = 98.1 MHz, TP 3 = 106.1MHz (A,K)

TP 1 = 90.0 MHz, TP 2 = 98.0 MHz, TP 3 = 106.0 MHz (D/RDS)

\* Filter = B.P.F at Stereo

NO	DESCRIPTION		UNIT	LIMIT	NOMINAL
1	Tuning Range (A/K)	Low~High	MHz	87.5~107.9M	
	" (D/RDS)			87.5~108M	
	Step (A/K)	Auto/Man.	kHz	200	
	" (D/RDS)			100/50	
2	Usable Sensitivity	TP1	dBf	$\leq 23.2$	$\leq 20.2$
	S/N = -30dB (A/K)	TP2	dBf	$\leq 23.2$	$\leq 20.2$
	S/N = -26dB (D/RDS)	TP3	dBf	$\leq 23.2$	$\leq 20.2$
3	Full Limiting Sense	Output = -3dB	dBf	$\leq 17.2$	$\leq 15.2$
4	Auto Stop Level		dBf	$31.2 \pm 5$	$31.2 \pm 3$
5	Auto Scan Error (A/K)		kHz	$\pm 20$	$\pm 25$
	" (D/RDS)		kHz	$\pm 15$	$\pm 20$
6	S/N Ratio	Mono	dB	$\geq 65$	$\geq 70$
	IHF-A Filter	Stereo	dB	$\geq 60$	$\geq 65$
7	Total Harmonic Distortion	Mono	%	$\leq 0.5$	$\leq 0.3$
		Stereo	%	$\leq 0.8$	$\leq 0.5$
8	50dB Quieting Sensitivity (A/K)	Mono	dBf	$\leq 27.2$	$\leq 23.2$
	46dB Quieting Sensitivity (D/RDS)	Stereo	dBf	$\leq 48.3$	$\leq 45.3$
9	Channel Separation (A/K)	100Hz	dB	$\geq 35$	$\geq 40$
		1kHz	dB	$\geq 40$	$\geq 45$
		10kHz	dB	$\geq 30$	$\geq 35$
	Channel Separation (D/RDS)	100Hz	dB	$\geq 32$	$\geq 37$
		1kHz	dB	$\geq 37$	$\geq 42$
		10kHz	dB	$\geq 27$	$\geq 32$
10	Frequency Response at $\pm 1.5\text{dB}$		Hz	20~12.5K	10~14K
11	Spurious Response (A/K)		dB	$\geq 70$	$\geq 80$
	Spurious Response (D/RDS)		dB	$\geq 80$	$\geq 90$
12	IF Rejection	TP1	dB	$\geq 70$	$\geq 80$
13	Image Rejection (A/K)	TP3	dB	$\geq 60$	$\geq 65$
	" (D/RDS)	"	dB	$\geq 70$	$\geq 80$
14	AM rejection Ratio		dB	$\geq 47$	$\geq 52$
15	Capture Ratio		dB	$\leq 2.5$	$\leq 2$
16	Alt CH Selectivity (A/K) $\pm 400\text{KHz}$		dB	$\geq 42$	$\geq 47$
	Alt CH Selectivity (D/RDS) $\pm 300\text{KHz}$			$\geq 42$	$\geq 47$
17	Output Level Mono		mV	$500 \pm 150$	$500 \pm 100$

## REAR AMP SECTION

Measurements conditions : Input level Dolby 500mV, DSP mode 800mV, DSP mode signal (L+R)

Rear level max., Master volume adj. Delay time 20ms.

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Power output 1% THD	CD	1kHz	8ohms	W	≥ 90	≥ 93
2	Total Harmonic Distortion	CD	1kHz	1W	%	≤ 1	≤ 0.7
3	S/N RATIO DOLBY	CD		R/O	dB	≥ 55	≥ 63
	IHF-A FILTER THEATER	CD		"	dB	≥ 55	≥ 63
	HALL	CD		"	dB	≥ 55	≥ 63
	STADIUM	CD		"	dB	≥ 55	≥ 63
	CHURCH	CD		"	dB	≥ 55	≥ 63
4	FRE RES.(Only Dolby) ± 3dB	CD	1kHz	1W	Hz~kHz	120~6	100~7

## CENTER AMP SECTION

Measurements conditions : Input level 500mV, SPKR mode : Large, Center level 0dB, Master volume adj,

Sub : Yes

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Power output at 0.3% THD	CD	1kHz	8ohms	W	≥ 90	≥ 93
2	Total Harmonic Distortion	CD	1kHz	1W	%	≤ 0.3	≤ 0.2
3	S/N RATIO, IHF-A Filter	CD		R/O	dB	≥ 55	≥ 60
4	Frequency Response Large	CD		1W	Hz~kHz	20~18K	15~20K
	Dolby Mode Small	CD		1W	Hz~kHz	160~18K	140~20K

## VIDEO SECTION (230V/50Hz Only)

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Output Level at 75 ohms	VCR1(1Vp-p)	1MHz		Vp-p	1 ± 0.2	1 ± 0.1
2	Frequency Response	"	1MHz		Hz~MHz	DC~6	DC~6.3
3	S/N RATIO	"	1MHz		dB	40	45
4	Crosstalk	"	1MHz		dB	40	45

## C-VIDEO SECTION (120V/60Hz Only)

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Output Level at 75 ohms	DVD		Grey Scale (100%)	Vp-p	1.0 ± 3dB	
2	Frequency Response (-3dB)	"		Multiburst	MHz	4.2	
3	S/N Ratio	"	3.58MHz	Color Bar	dB	≥ 40	≥ 45
4	Crosstalk	"	3.58MHz	"	dB	≥ 40	≥ 45

## S-VIDEO SECTION (120V/60Hz Only)

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Y : Output Level at 75ohms	DVD		Grey Scale (100%)	Vp-p	1.0 ± 3dB	
	C : Output Level at 76ohms	"		"	Vp-p	0.286 ± 3dB	
2	Y : Frequency Response (-3dB)	DVD		Multiburst	MHz	7.0	
	C : Frequency Response (-3dB)	"		"	MHz	3.58	
3	S/N Ratio (Y and C)	DVD	3.58MHz	Color Bar	dB	≥ 40	≥ 45
4	Crosstalk (Y and C)	DVD	3.58MHz	"	dB	≥ 40	≥ 45

## AC-3 SECTION

Measurements conditions, unless otherwise noted : Input Function : LD

Digital Input Mode : LD RF

Speaker Mode : Center : Large, Sub-Woofer : Yes

Main Vol Position : 1 Vrms Output Position

Trim Vol Position : All "0dB"

Test Point : Pre-out

Test Disc : Dolby Test LD Version 1.0

Center, Rear Dealy : 0 ms

No	Description		Signal	Input	Chapter	Unit	Limit	Nominal
1	Output Level Main Vol Level : "58" Position		1kHz	0dB	38	V	0.9±0.3	0.9±0.2
		Measurement	L	C	R	LS	RS	SW
			30Hz	0dB	18	V	3.0±0.8	3.0±0.5
		Measurement	L	C	R	LS	RS	SW
2	Output Level at Min.Vol.		1kHz	0dB	38	mV	≤0.2	≤0.15
		Measurement	L	C	R	LS	RS	SW
			30Hz	0dB	18	mV	≤0.2	≤0.15
		Measurement	L	C	R	LS	RS	SW
3	S/N Ratio Pre Out :	100mV, "A" weighted	1kHz	-20dB	6	dB	≥60	≥65
		Measurement	L	C	R	LS	RS	SW
		1V, Unweighte	30Hz	0dB	18	dB	≥60	≥65
		Measurement	L	C	R	LS	RS	SW
4	T.H.D	Pre-Out : 100mV	1kHz	-20dB	6	%	≤0.5	≤0.3
		Measurement	L	C	R	LS	RS	SW
		Pre-Out : 1V	30Hz	0dB	18	%	≤0.3	≤0.2
		Measurement	L	C	R	LS	RS	SW
5	Channel  Separation	L	1kHz	0dB	8	dB	Other Channel	
		Measurement	L	C	R	LS	RS	SW
		C	1kHz	0dB	10	dB	≥60	≥65
		Measurement	L	C	R	LS	RS	SW
		R	1kHz	0dB	12	dB	L ◀---▶ R	
		Measurement	L	C	R	LS	RS	SW
		LS	1kHz	0dB	14	dB	≥50	≥55
		Measurement	L	C	R	LS	RS	SW
		RS	1kHz	0dB	16	dB	ALL ◀-▶ Sub-Woofer	
		Measurement	L	C	R	LS	RS	SW
		SW	30Hz	0dB	18	dB	≥30	≥35
		Measurement	L	C	R	LS	RS	SW
6	Frequency Response at M-Vol Level :"50"	Sub-Woofer : Yes, Front : Small	30Hz (1kHz)	0dB	20 (38:ref)	dB	≤-15	≤-20
		Measurement	L	C	R	LS	RS	SW
		Center : Small, Rear : Small	1kHz (30Hz)	0dB	38 (20:ref)	dB	≤-30	≤-35
		Measurement	L	C	R	LS	RS	SW
		Sub-Woofer : No, Center : Large	30Hz (1kHz)	0dB	20 (38:ref)	dB	8.5±1.5	8.5±1
		Measurement	L	C	R	LS	RS	SW
7	Dialog Normalization Main Vol Level : "50" Position		1kHz	0dB	43	dB	-10dB±1	-10dB±0.5
		Measurement	L	C	R	LS	RS	SW
			30Hz	0dB	43	dB	-10dB±1	-10dB±0.5
		Measurement	L	C	R	LS	RS	SW
8	Down Mix Level  Main Vol Level :  "50" Position	AC-3 Mode						
		Measurement	L	C	R	LS	RS	SW
		Stereo Key : ON	1kHz	0dB	38	dB	-3.2±0.5	-3.2±0.3
		Measurement	L	C	R	LS	RS	SW
		Sub-Woofer : No						
		Measurement	L	C	R	LS	RS	SW

No	Description		Signal	Input	Chapter	Unit	Limit	Nominal
9	Dynamic Range	Main Vol Level : "50" Position	1kHz	0dB	38	dB	$-22 \leq \pm 2$	$-22 \leq \pm 1$
		Measurement	L	C	R	LS	RS	SW
		Sub-Woofer : Yes	30Hz	0dB	18	dB	$\pm 1$	$\pm 0.5$
		Measurement	L	C	R	LS	RS	SW
10	Channel across	C -> L,R / Center 0dB Setting / Center : No						
			1kHz	0dB	10	dB	$-3 \pm 1$	$-3 \pm 0.5$
		Measurement	L	C	R	LS	RS	SW
	Level, Main Vol	LS -> L / LS 0dB Setting / Rear : No						
			1kHz	0dB	14	dB	$-3 \pm 1$	$-3 \pm 0.5$
		Measurement	L	C	R	LS	RS	SW
	Level "58"	RS -> R / RS 0dB Setting / Rear : No						
			1kHz	0dB	16	dB	$-3 \pm 1$	$-3 \pm 0.5$
		Measurement	L	C	R	LS	RS	SW
	Position	Sub-Woofer -> L/R / Sub 0dB Setting / Sub : No						
			30Hz	0dB	18	dB	$-6.5 \pm 2$	$-6.5 \pm 1$
		Measurement	L	C	R	LS	RS	SW
11	LFE Signal	L/C/R/LS/RS -> Sub Out (1), Sub : Yes						
			30Hz	0dB	20	V	$1.8 \pm 0.5$	$1.8 \pm 0.3$
		Measurement	L	C	R	LS	RS	SW
	across level	L/C/R/LS/RS -> Sub out (2), (1) : 0dB, Stereo : On, Sub : Yes						
			30Hz	0dB	20	dB	$-11 \pm 2$	$-11 \pm 1$
		Measurement	L	C	R	LS	RS	SW
	Main Vol Level	C/LS/RS -> L/R (3), (2) : 0dB, Stereo : On, SUB : No						
			30Hz	0dB	20	dB	$-5.5 \pm 3$	$-5.5 \pm 2$
		Measurement	L	C	R	LS	RS	SW
12	LFE signal	L/C/R/LS/RS/LFE -> Sub Out (1), Sub : Yes						
			30Hz	0dB	22	V	$2.5 \leq \pm 0.8$	$2.5 \leq \pm 0.5$
		Measurement	L	C	R	LS	RS	SW
	across Level	L/C/R/LS/RS/LFE -> Sub Out (2), (1) : 0dB, Stereo : On, Sub : Yes						
			30Hz	0dB	22	dB	$-11 \leq \pm 2$	$-11 \leq \pm 1$
		Measurement	L	C	R	LS	RS	SW
	Main Vol Level	C/LS/RS/LFE -> L/R (3), (2) : 0dB, Stereo : On, Sub : No						
			30Hz	0dB	22	dB	$-6.5 \leq \pm 3$	$-6.5 \leq \pm 2$
		Measurement	L	C	R	LS	RS	SW
13	Down Mix Frequency Reponse Main Vol Level : "50" Position	AC-3 Mode						
		Stereo Key : ON Sub-Woofer : NO	30kHz	0dB	20(38:ref)	dB	$\pm 1$	$\pm 0.5$
		Measurement	L	C	R	LS	RS	SW

## DTS SECTION

Measurements conditions, unless otherwise noted : Input function : CD

Digital Input Mode : CD Optical or Coaxial

Speker Mode : Center : Large, Sub-Woofer : Yes

Test Point : Pre-out

Trim Vol Position : All "0dB"

Test Disc : DTS Set-Up Disc

No	Description		Signal	Input	Chapter	Unit	Limit	Nominal
1	Output Level Main Vol Level : "58" Position		1kHz	0dB	6	V	$0.15 \pm 0.05$	$0.15 \pm 0.03$
		Measurement	L	C	R	LS	RS	SW
			100Hz	0dB	7	V	$0.7 \pm 0.2$	$0.7 \pm 0.1$
		Measurement	L	C	R	LS	RS	SW

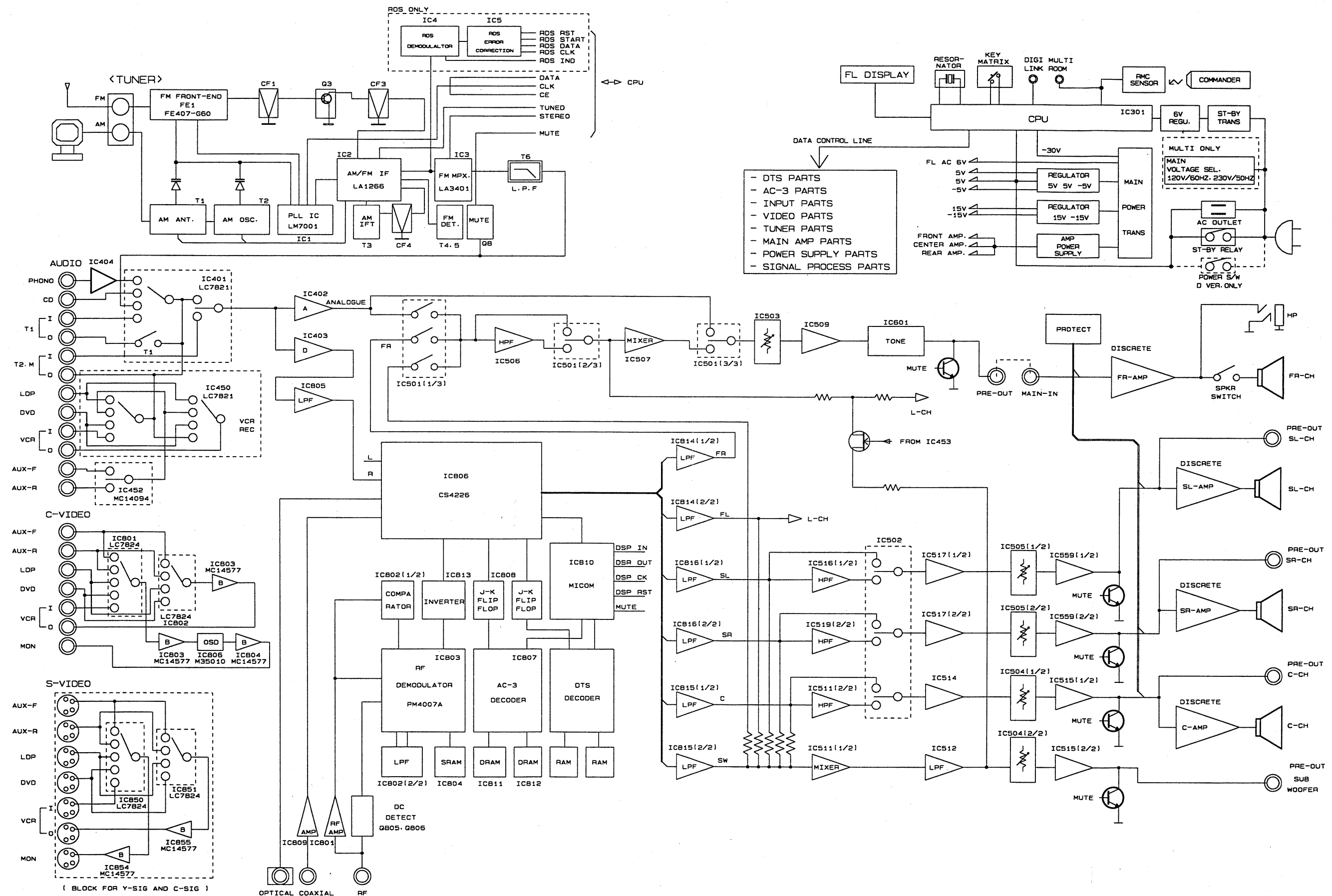
## BASS CAPABILITY OUTPUT LEVEL

No	Description	Spkr Mode	Sub Mode	Signal	Input	Chapter	Unit	Limit	Nominal
1	Analog Stereo Mode Main Vol. level "60" position. Input : 200mV	F: Large	Yes	30Hz			mV	100±20	100±20
		Measurement		L	C	R	LS	RS	SW
		F: Large	Yes	30Hz			mV	220±30	220±20
		Measurement		L	C	R	LS	RS	SW
		F: Large	No	30Hz			mV	100±20	100±20
		Measurement		L	C	R	LS	RS	SW
		F: Small	Yes	30Hz			mV	8.5±2	8.5±1
		Measurement		L	C	R	LS	RS	SW
		F: Small	Yes	30Hz			mV	220±30	220±20
		Measurement		L	C	R	LS	RS	SW
		F: Small	No	30Hz			mV	8.5±2	8.5±1
		Measurement		L	C	R	LS	RS	SW
2	Dolby-Digital AC-3 mode main Vol. Level "50" position.  Input Function : LD  Digital input : LD RF  Test point : Pre-Out  Test disc : Dolby test LD version 1.0  Center, Rear Delay : 0ms	F: Large	Yes	30Hz	0dB	20	mV	350±50	350±30
		Measurement		L	C	R	LS	RS	SW
		F: Large	Yes	30Hz	0dB	20	V	1.9±0.3	1.9±0.2
		Measurement		L	C	R	LS	RS	SW
		F: Large	No	30Hz	0dB	20	mV	950±150	950±100
		Measurement		L	C	R	LS	RS	SW
		F: Small	Yes	30Hz	0dB	20	mV	27±5	27±3
		Measurement		L	C	R	LS	RS	SW
		F: Small	Yes	30Hz	0dB	20	V	1.9±0.3	1.9±0.2
		Measurement		L	C	R	LS	RS	SW
		F: Small	No	30Hz	0dB	20	mV	37±8	37±5
		Measurement		L	C	R	LS	RS	SW
		C: large	Yes	30Hz	0dB	20	mV	350±50	350±30
		Measurement		L	C	R	LS	RS	SW
		C: Small	Yes	30Hz	0dB	20	mV	60±15	60±10
		Measurement		L	C	R	LS	RS	SW
		C: No	Yes	30Hz	C → L/R	20	dB	-6.5±1	-6.5±1
		Measurement		L	C	R	LS	RS	SW
		C: No	Yes	30Hz	C → SW	20	dB	4.5±1	4.5±0.5
		Measurement		L	C	R	LS	RS	SW
		C: No	No	30Hz	C → L/R	20	dB	-2.0±1	-2.0±0.5
		Measurement		L	C	R	LS	RS	SW
		S: Large	Yes	30Hz	0dB	20	mV	350±50	350±30
		Measurement		L	C	R	LS	RS	SW
		S: Small	Yes	30Hz	0dB	20	mV	28±5	28±3
		Measurement		L	C	R	LS	RS	SW
		S: No	Yes	30Hz	S → L/R	20	dB	-6.5±2	-6.5±1
		Measurement		L	C	R	LS	RS	SW
		S: No	Yes	30Hz	S → SW	20	dB	2.5±1	2.5±0.5
		Measurement		L	C	R	LS	RS	SW
		S: No	No	30Hz	S → L/R	20	dB	-4.0±1	-4.0±0.5
		Measurement		L	C	R	LS	RS	SW

No	Description	Spkr Mode	Sub Mode	Signal	Input	Chapter	Unit	Limit	Nominal
3	Dolby-Prologic Mode Main Vol. level "60" position.  Encoder input : 30mV  Used 4-point Encoder	F : Large	Yes	30Hz			mV	110±20	110±10
		Measurement		L	C	R	LS	RS	SW
		F : Large	Yes	30Hz			mV	120±20	120±10
		Measurement		L	C	R	LS	RS	SW
		F : Large	No	30Hz			mV	110±20	110±10
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	30Hz			mV	8.5±2	8.5±1
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	30Hz			mV	120±20	120±10
		Measurement		L	C	R	LS	RS	SW
		F : Small	No	30Hz			mV	12±2	12±1
		Measurement		L	C	R	LS	RS	SW
		C : large	Yes	30Hz			mV	110±20	110±10
		Measurement		L	C	R	LS	RS	SW
		C : Small	Yes	30Hz			mV	19±2	19±2
		Measurement		L	C	R	LS	RS	SW
		C : No	Yes	30Hz	C→L/R		dB	-3.0±1	-3.0±0.5
		Measurement		L	C	R	LS	RS	SW
		C : No	Yes	30Hz	C→SW		dB	3.5±1	3.5±0.5
		Measurement		L	C	R	LS	RS	SW
		S : Large	Yes	30Hz			mV	78±20	78±10
		Measurement		L	C	R	LS	RS	SW
		S : Small	Yes	30Hz			mV	6.0±2	6.0±1
		Measurement		L	C	R	LS	RS	SW
4	DTS-Mode Main Vol. level "58" Position.  Input function : CD  Input : Optical, Coaxial	F : Large	Yes	100Hz		7	V	0.15±0.05	0.15±0.03
		Measurement		L	C	R	LS	RS	SW
		F : Large	Yes	100Hz		7	V	0.7±0.2	0.7±0.1
		Measurement		L	C	R	LS	RS	SW
		F : Large	No	100Hz		7	V	0.35±0.05	0.35±0.03
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	100Hz		7	V	0.1±0.05	0.1±0.03
		Measurement		L	C	R	LS	RS	SW
		F : Small	Yes	100Hz		7	V	0.7±0.2	0.7±0.1
		Measurement		L	C	R	LS	RS	SW
		F : Small	No	100Hz		7	V	0.13±0.05	0.13±0.03
		Measurement		L	C	R	LS	RS	SW
		C : large	Yes	100Hz		7	V	0.15±0.05	0.15±0.03
		Measurement		L	C	R	LS	RS	SW
		C : Small	Yes	100Hz		7	V	0.12±0.03	0.12±0.01
		Measurement		L	C	R	LS	RS	SW
		S : Large	Yes	100Hz		7	V	0.15±0.05	0.15±0.03
		Measurement		L	C	R	LS	RS	SW
		S : Small	Yes	100Hz		7	V	0.1±0.05	0.1±0.03
		Measurement		L	C	R	LS	RS	SW

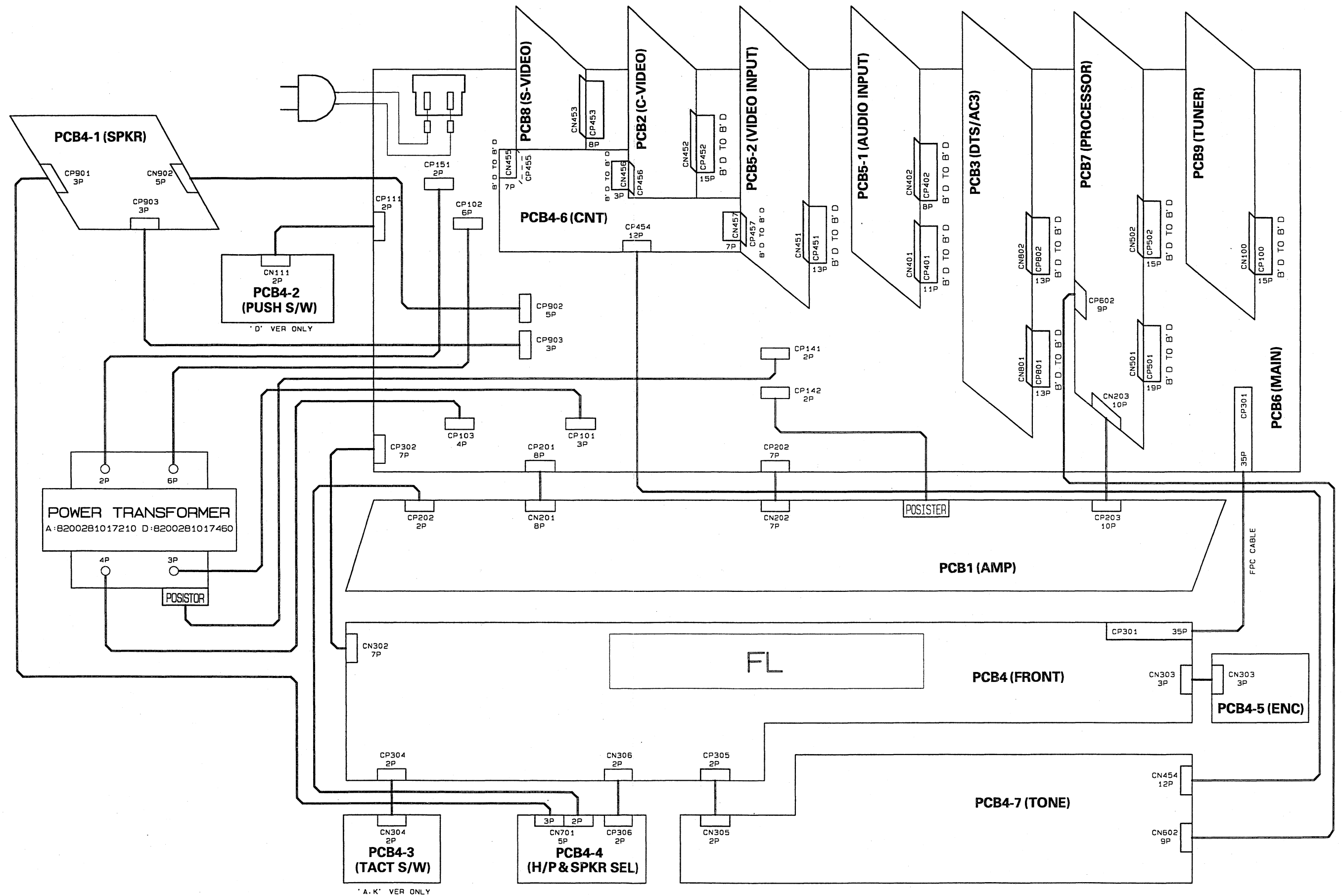
# BLOCK DIAGRAM

Model No. : R-945R/R-945RDS



# WIRING DIAGRAM

Model No. : R-945R/R-945RDS

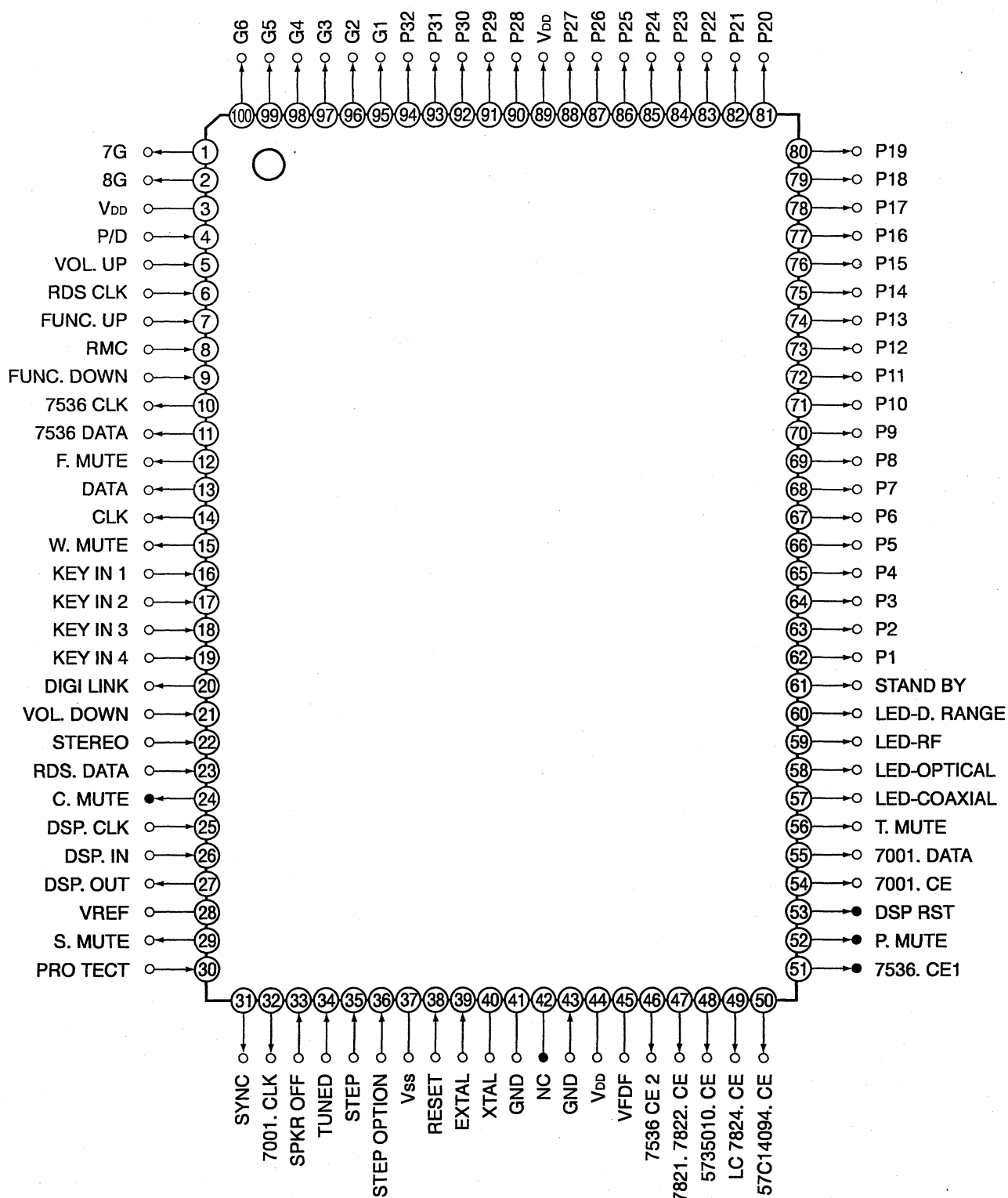




# CIRCUIT DESCRIPTION

## IC301 : CXP82860-127Q

### 1. Pin Description

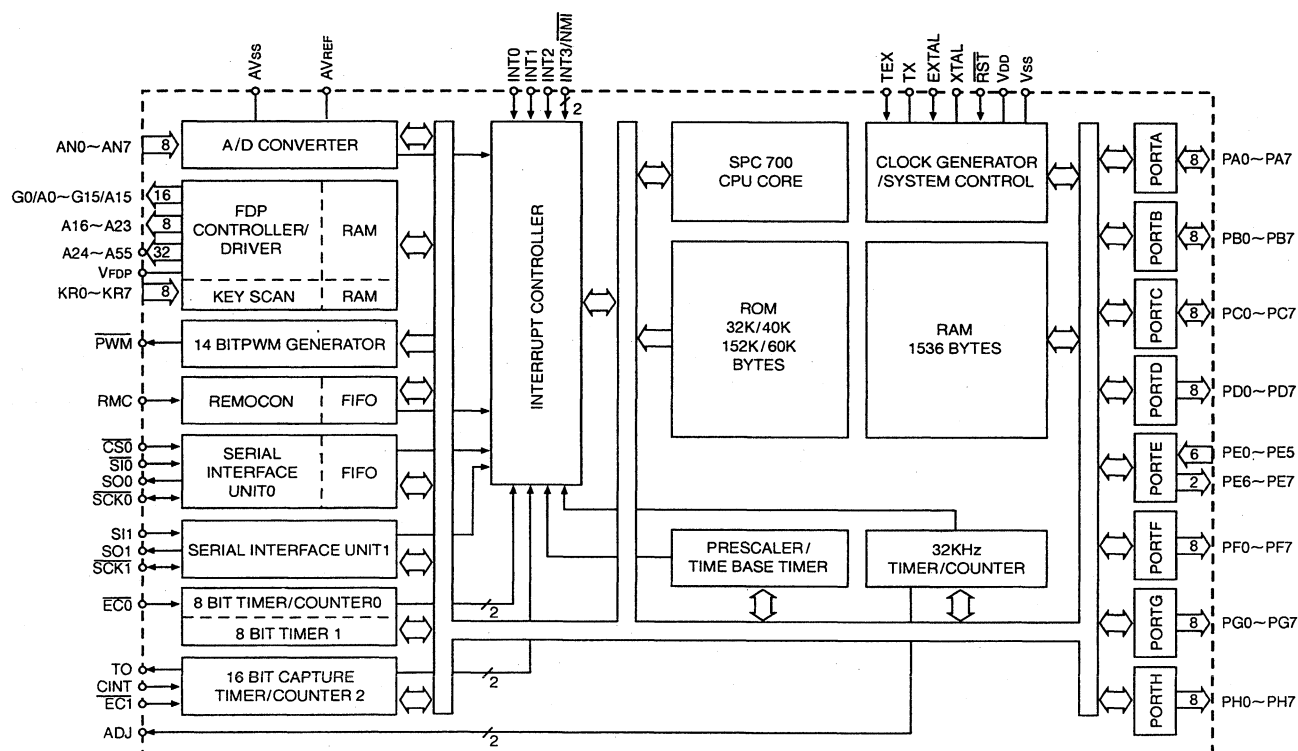


## 2. Main CPU Pin Functions

Pin No.	Symbol	Description
1~2	7G~8G	Grid signal output for FIP.
3	VDD	+5V power supply.
4	P/D	Input for power down.
5	VOL. UP	Input for main volume up.
6	RDS CLK	Clock signal output for TDA7330.
7	FUNC. UP	Input for main function up.
8	RMC	Input for remocon data.
9	FUNC. DOWN	Input for main function down.
10	7536CLK	Clock signal output for LC7536.
11	7536DATA	Data signal output for LC7536.
12	F. MUTE	Output for front channel mute. (At "H", it is active.)
13	DATA	Data signal output for LC821.
14	CLK	Clock signal output for LC7821 and LC7822.
15	W. MUTE	Output for subwoofer mute. (At "H", it is active.)
16~19	KEY IN1~4	Data input for key scan.
20	DIGI LINK	Input/Output for controlling digi-link.
21	VOL. DOWN	Input for main volume down.
22	STEREO	Input for detecting "Stereo" condition.
23	RDS. DATA	Input for RDS data of TDA7330.
24	C. MUTE	Output for center channel mute. (At "H", it is active.)
25	DSP. CLK	Clock signal input from IC810. (uPD78044, pin 9)
26	DSP. IN	Data signal input from IC810. (uPD78044, pin 11)
27	DSP. OUT	Data signal output to IC810. (uPD78044, pin 10)
28	VREF	Reference voltage. (Connected to +5V, Not VDD.)
29	S. MUTE	Output for surround channel mute. (At "H", it is active.)
30	PROTECT	Input for detecting "Protection" condition.
31	SYNC	Synchronization signal output for M35010 and BA7046.
32	7001. CLK	Clock signal output for LM7001.
33	SPK OFF	Input for detecting "Speaker Switch is Off" condition.
34	TUNED	Input for detecting "Tuned" condition. (At "L", it is active.)
35	STEP OPTION	Input for selecting the frequency ranges steps of FM and AM.
36	SET OPTION	Input for selecting set. (5V : RDS Receiver, 0V : Receiver)
37	VSS	This pin provides the ground potential.

Pin No.	Symbol	Description
38	RESET	Input for resetting the CPU. (At "L", it is active.)
39	EXTAL	Input for 10MHz crystal oscillator.
40	XTAL	Output for 10MHz crystal oscillator.
41	G	Ground.
42		Not Used!
43	G	Ground.
44	VDD	+5V power supply.
45	VFDF	-30V power supply for FIP.
46	7536EC2	Chip enable signal output to LC7536. (Center,Rear and Woofer CH.Electric Vol.)
47	7821,7822CE	Chip enable signal output to LC7821, LC7822.
48	M35010CE	Chip enable signal output to M35010.
49	LC7824CE	Chip enable signal output to LC7824.
50	MC14094CE	Chip enable signal output to MC14094CE.
51	7536CE1	Chip enable signal output to LC7536. (Front CH. Electric Vol.)
52	P. MUTE	Output for ST-BY Amp Mute. (At "H", it is active.)
53	DSP RST	Reset signal output to IC14 (uPD 78044, pin 17)
54	7001 CE	Chip enable signal output to LM7001.
55	7001 DATA	Data signal output for LM7001.
56	T. MUTE	Output for tuner mute. (At "H", it is active.)
57	LED-COAXIAL	Output to drive COAXIAL LED. (At "H", it is active.)
58	LED-OPTICAL	Output to drive OPTICAL LED. (At "H", it is active.)
59	LED-RF	Output to drive RF LED. (At "H", it is active.)
60	LED-D.RANGE	Output to drive Dynamic Range LED. (At "H", it is active.)
61	STAND BY	Output to drive power Relay & Stand-By LED. (At "H", it is active.)
62~70	P1~P9	Segment signal output for FIP.
71~80	P10~P19	Segment signal output for FIP and data output for key scan.
81~88	P20~P27	Segment signal output for FIP.
89	VDD	+5V power supply.
90~94	P28~P32	Segment signal output for FIP.
95~100	1G~6G	Grid signal output for FIP.

### 3. Block Diagram



### 4. Key Matrix

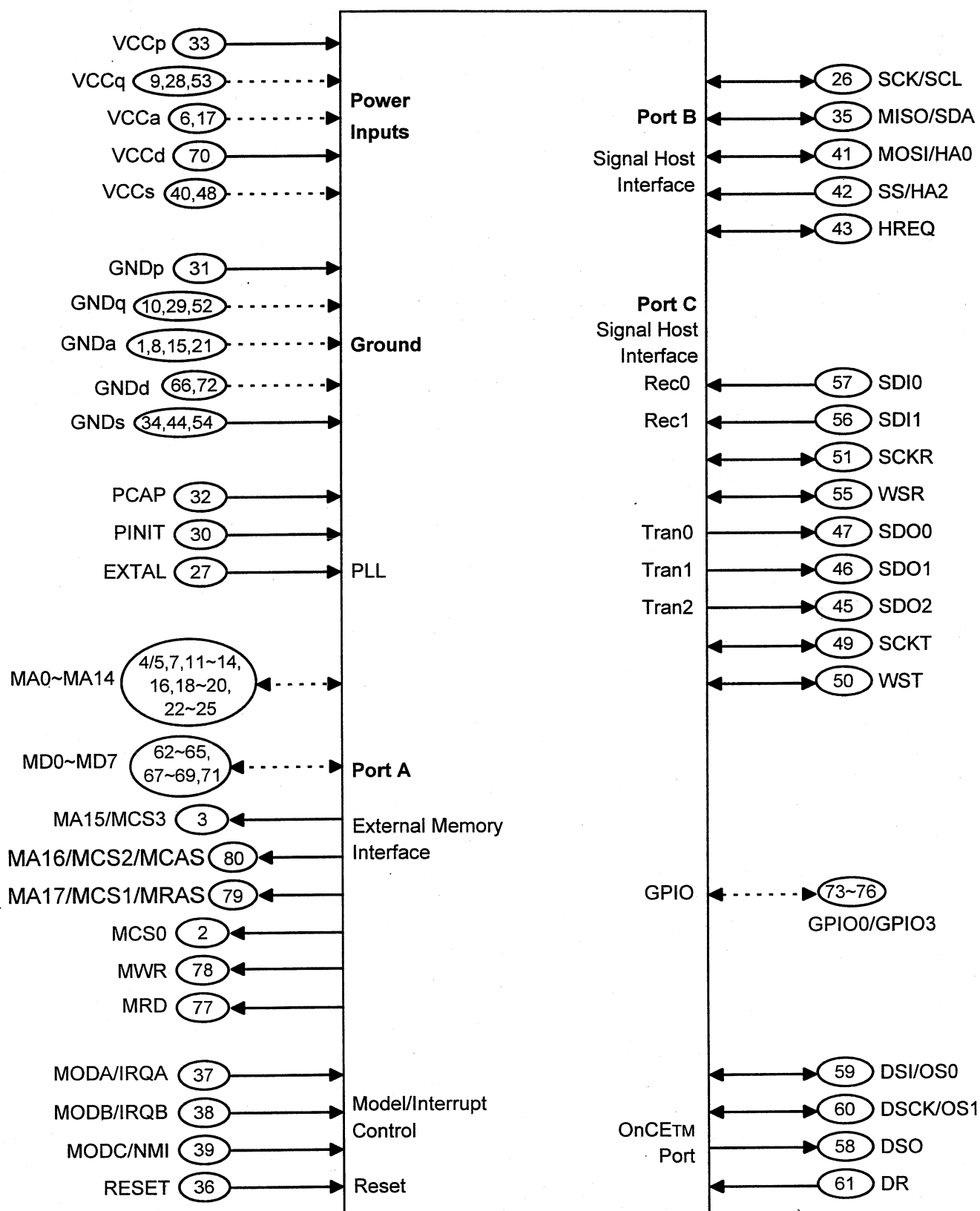
KEY CHECK	KEY IN1 PIN16	KEY IN2 PIN17	KEY IN3 PIN18	KEY IN4 PIN19
KEY SCAN0 PIN71	SLEEP/ ST-BY	DIGITAL INPUT	1	POWER (ST-BY)
KEY SCAN1 PIN72	PTY SELECT	DISPLAY	SEARCH	
KEY SCAN2 PIN73	AC-3	DTS	SURROUND MODE	PRO-LOGIC
KEY SCAN3 PIN74	4	3	2	5
KEY SCAN4 PIN75	EON-PTY			EON-DA
KEY SCAN5 PIN76	MEMORY ENTER	TUNE DOWN	0	FREQUENCY
KEY SCAN6 PIN77	7	8	9	6
KEY SCAN7 PIN78	TUNE UP	FM MODE	REAR LEVEL DW	REAR LEVEL UP
KEY SCAN8 PIN79	BAND	DYNAMIC RANGE	STEREO	CINEMA BASS
KEY SCAN9 PIN80	CENTER LEVEL DW	CENTER LEVEL UP		SPKR MODE
KEY SCAN10 PIN81	OSD	VCR1 REC	TAPE2 MONITOR	VIDEO LABEL

**IC14 : UPD78042****2-1. Sub CPU Pin Functions**

Pin No.	Symbol	Description
1~7		Not Used!
8	VDD	+5V power supply.
9	DSPCK	Clock signal output to IC301. (CXP82860, pin 25)
10	DSPOUT	Data signal input from IC301. (CXP82860, pin 27)
11	DSPIN	Data signal output to IC301. (CXP82860, pin26)
12~13		Not Used!
14	S1OCK	Clock signal output to IC1 (DSP56009) and IC4 (CS4226).
15	S1ODAOOUT	Data signal output to IC1 (DSP56009) and IC4 (CS4226).
16	S1ODAIN	Data signal input from IC1 (DSP56009) and IC4 (CS4226).
17	RESET	Reset signal input from IC301 (CXP82860, pin 53).
18	P74	Not Used!
19	P73	Not Used!
20	AVSS	Ground.
21	SRST	Reset signal output to IC4 (CS4226).
22	AN16	Not Used!
23	AN15	Strobe signal output to IC4 (CS4226).
24	AC3/DTS	Data signal output to IC6 (74HC157).
25	MUTE	Output for all channel mute. (At "L", it is active.)
26~27		Not Used!
28	44~48FS	Sampling rate control port. (At "H", it is 48kHz mode, At "L", it is 44.1kHz mode)
29	AVDD	+5V power supply.
30	AVREF	+5V power supply.
31	XT1	Not Used!
32	XT2	Not Used!
33	VSS	This pin provides the ground potential.
34	X1	Input for 4.19MHz crystal oscillator.
35	X2	Output for 4.19MHz crystal oscillator.
36	GPIO 0	Output for DSP mode. (At "H", it is active.)
37		Not Used!
38	RF-CTL	IC11 (PM4007) OSC control port. (At "H", it is OSC-OFF. At "L", it is OSC-ON.)
39	DIS-OK-IN	Data signal input to IC18. (DSP56009, pin74)
40	VCCS	Ground.
41	M-SS	Chip enable signal output to IC1. (MC56009)
42	M-RST	Reset signal output to IC1. (MC56009)
43	M-HREQ	Host request port from IC1. (MC56009)
44	TEST	Test tone retry. (At "L", it is active.)
45	OPSENSE	Input for detecting "Optical Input". (At "L", it is active.)
46	COSENSE	Input for detecting "Coaxial Input". (At "L", it is active.)
47	PCMSENSE	Input for detecting "AC-3 Data" and "PCM Data". (At "L", it is active.)
48	IC	Ground.
49~51		Not Used!
52	VDD	+5V power supply.
53~70		Not Used!
71	VLOAD	Ground.
72~80		Not Used!

# IC1,18 : 56009 => SIGNAL /CONNECTION DESCRIPTIONS

## 3-1. Pin Discription



## 3-2. PIN FUNCTION

### 1-1. SIGNAL GROUPINGS ALLOCATIONS

Functional Group	Number of Signals
Power (VCC)	9
Ground (GND)	13
Phase Lock Loop (PLL)	3
External Memory Interface (EMI)	29
Interrupt and Mode control	4
Serial Host Interface (SHI)	5
Serial Audio Interface (SAI)	9
General Purpose Input/Output (GPIO)	4
On-Chip Emulation (OnCE) port	4
Total	80

### 1-2. POWER INPUTS

Power Name	Description
VCCp	PLL Power - VCCp provides isolated power for the Phase Lock Loop (PLL).
VCCq	Quiet Power - VCCq provides isolated power for the internal processing logic.
VCCa	Address Bus power - VCCa provides isolated power for sections of the address bus I/O drivers.
VCCd	Data Bus Power - VCCd provides isolated power for sections for the data bus I/O drivers.
VCCs	Serial Interface Power - VCCs provides isolated power for the SHI and SAI.

### 1-3. GROUNDS

Ground Name	Description
GNDp	PLL Ground - GNDp is ground dedicated for PLL use.
GNDq	Quiet Ground - GNDq provides isolated ground for the internal processing logic.
GNDa	Address Bus Ground - GNDa provides isolated ground for sections of the address bus I/O drivers.
GNDd	Data Bus Ground - GNDd provides isolated ground for sections of the data bus I/O drivers.
GNDs	Serial Interface Ground - GNDs provides isolated ground for the SHI and SAI.

### 1-4. CLOCK AND PLL SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
EXTAL	Input	Input	External Clock/Crystal This input should be connected to an external clock source.
PCAP	Input	Input	PLL Filter Capacitor This input is used to connect a high quality (high "Q" factor) external capacitor needed for the PLL filter.
PINIT	Input	Input	PLL Initialization (PINIT) - During the assertion of hardware reset, the value on the PINIT line is written into the PEN bit of the PCTL register.

## 1-5. EXTERNAL MEMORY INTERFACE (EMI)

Signal Name	Signal Type	State during Reset	Signal Description
MA0~MA14	Output	1-6	<b>Memory Address Lines 0-14</b> The MA0-MA10 lines provide the multiplexed row/column addresses for DRAM accesses.
MA15  MCS3	Output	1-6	<b>Memory Address Line 15 (MA15)</b> This line functions as the non-multiplexed address line 15. <b>Memory Chip Select 3 (MCS3)</b> For SRAM accesses, this line functions as memory chip select 3.
MA16  MCS2  MCAS	Output	1-6	<b>Memory Address Line 16 (MA16)</b> This line functions as the non-multiplexed address line 16 or as memory chip select 2 for SRAM accesses. <b>Memory Chip Select 2 (MCS2)</b> For SRAM access, this line functions as memory chip select 2. <b>Memory Column Address Strobe (MCAS)</b> This line functions as the Memory Column Address Strobe (MCAS) during DRAM accesses.
MA17  MCS1  MRAS	Output	1-6	<b>Memory Address Line 17 (MA17)</b> This line functions as the non-multiplexed address line 17. <b>Memory Chip Select 1 (MCS1)</b> This line functions as chip select 1 for SRAM accesses. <b>Memory Row Address Strobe (MRAS)</b> This line also functions as the memory Row address strobe during DRAM accesses.
MCS0	Output	1-6	<b>Memory Chip Select 0</b> This line functions as memory chip select 0 for SRAM accesses.
MWR	Output	1-6	<b>Memory Write Strobe</b> This line is asserted when writing to external memory.
MRD	Output	1-6	<b>Memory Read Strobe</b> This line is asserted when reading external memory.
MD0-MD7	Bidirectional	Tri-stated	<b>Data Bus</b> These signals provide the bidirectional data Bus for EMI accesses.



## 1-6. EMI STATES DURING RESET AND STOP STATES

Signal	Operating Mode			
	Hardware Reset	Software Reset	Individual Reset	Stop Mode
MA0-MA14	Driven High	Previous State	Previous State	Previous State
MA15	Driven High	Driven High	Previous State	Previous State
MCS3	Driven High	Driven High	Driven High	Driven High
MA16	Driven High	Driven High	Previous State	Previous State
MCS2	Driven High	Driven High	Driven High	Driven High
MCAS:				
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
MA17	Driven High	Driven High	Previous State	Previous State
MCS1	Driven High	Driven High	Driven High	Driven High
MRAS:				
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
DRAM refresh disabled	Driven High	Driven High	Driven High	Driven High
MCS0	Driven High	Driven High	Driven High	Driven High
MWR	Driven High	Driven High	Driven High	Driven High
MRD	Driven High	Driven High	Driven High	Driven High

## 1-7. INTERRUPT AND MODE CONTROL SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
MODA	Input	Input (MODA)	<b>Mode Select A</b> - This input signal has three functions: <ul style="list-style-type: none"> <li>to work with the MODB and MODC signals to select the DSP's initial operating mode.</li> <li>to allow an external device to request a DSP interrupt after internal synchronization, and</li> <li>to turn on the internal clock generator when the DSP is in the stop processing state, causing the DSP to resume processing.</li> </ul> MODA is read and internally latched in the DSP when the processor exits the Reset state.
IRQA			<b>External Interrupt Request A (IRQA)</b> The IRQA input is a synchronized external interrupt request.
MODB	Input	Input (MODB)	<b>Mode Select B</b> - This input signal has two functions: <ul style="list-style-type: none"> <li>to work with the MODA and MODC signals to select the DSP's initial operating mode, and</li> <li>to allow an external device to request a DSP interrupt after internal synchronization.</li> </ul> MODB is read and internally latched in the DSP when the processor exits the Reset state.
IRQB			<b>External Interrupt Request B (IRQB)</b> The IRQB input is a synchronized external interrupt request.

## 1-7. INTERRUPT AND MODE CONTROL SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
MODC	Input, edge-triggered	Input (MODC)	<b>Mode Select C</b> - This input signal has two functions: <ul style="list-style-type: none"> <li>to work with the MODA and MODB signals to select the DSP's initial operating mode, and</li> <li>to allow an external device to request a DSP interrupt after internal synchronization.</li> </ul> MODC is read and internally latched in the DSP when the processor exits the Reset state.
NMI			<b>Non-Maskable Interrupt Request</b> The NMI input is a negative-edge-triggered external interrupt request.
RESET	Input	Active	<b>RESET</b> This input causes a direct hardware reset of the processor.

## 1-8. SERIAL HOST INTERFACE (SHI) SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
SCK	Input or Output	Tri-stated	<b>SPI Serial Clock (SCK)</b> The SCK signal is an output when the SPI is configured as a master, and a Schmitt-trigger input when the SPI is configured as a slave.
SCL	Input or Output		<b>I<sup>2</sup> C Serial Clock (SCL)</b> SCL carries the clock for bus transactions in the I <sup>2</sup> C mode.
MISO	Input or Output	Tri-stated	<b>SPI Master-In-Slave-Out (MISO)</b> When the SPI is configured as a master, MISO is the master data input line.
SDA	Input or Output		<b>I<sup>2</sup> C Serial Data and Acknowledge (SDA)</b> In I <sup>2</sup> C mode, SDA is a Schmitt-trigger input when receiving and an open-drain output when transmitting.
MOSI	Input or Output	Tri-stated	<b>SPI Master-Out-Slave-In (MOSI)</b> Then the SPI is configured as a master, MOSI is the master data output line.
HA0	Input		<b>I<sup>2</sup> C Slave Address 0 (HA0)</b> This signal uses a Schmitt-trigger input when configured for the I <sup>2</sup> C mode.
SS	Input	Tri-stated	<b>SPI Slave Select (SS)</b> This signal is an active low Schmitt-trigger input when configured for the SPI mode.
HA2	Input		<b>I<sup>2</sup> C Slave Address 2 (HA2)</b> This signal uses a Schmitt-trigger input when configured for the I <sup>2</sup> C mode.
HREQ	Input or Output	Tri-stated	<b>Host Request</b> This signal is an active low Schmitt-trigger input when configured for the Master mode, but an active low output when configured for the Slave mode.

### 1-9. SERIAL AUDIO INTERFACE (SAI) RECEIVER SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
SDI0	Input	Tri-stated	<b>Serial Data Input 0</b> While in the high impedance state, the internal input buffer is disconnected from the pin and no external pull-up is necessary.
SDI1	Input	Tri-stated	<b>Serial Data Input 1</b> While in the high impedance state, the internal input buffer is disconnected from the pin and no external pull-up is necessary.
SCKR	Input or Output	Tri-stated	<b>Receive Serial Clock</b> SCKR is an output if the receiver section is programmed as a master, and a Schmitt-trigger input if programmed as a slave.
WSR	Input or Output	Tri-stated	<b>Word Select Receive (WSR)</b> WSR is an output if the receiver section is configured as a master, and a Schmitt-trigger input if configured as a slave.

### 1-10. SERIAL AUDIO INTERFACE (SAI) TRANSMITTER SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
SDO0	Output	Driven High	<b>Serial Data Output 0 (SDO0)</b> SDO0 is the serial output for transmitter 0.
SDO1	Output	Driven High	<b>Serial Data Output 1 (SDO1)</b> SDO1 is the serial output for transmitter 1.
SDO2	Output	Driven High	<b>Serial Data Output 2 (SDO2)</b> SDO2 is the serial output for transmitter 2.
SCKT	Input or Output	Tri-stated	<b>Serial Clock Transmit (SCKT)</b> This signal provides the clock for the SAI.
WST	Input or Output	Tri-stated	<b>Word Select Transmit (WST)</b> WST is an output if the transmit section is programmed as a master, and a Schmitt-trigger input if it is programmed as a slave.

### 1-11. GENERAL PURPOSE I/O (GPIO) SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
GPIO0-GPIO3	Standard Output, Open-drain Output, or Input	Disconnected	GPIO lines can be used for control and handshake functions between the DSP and external circuitry.

## 1-12. ON-CHIP EMULATION (OnCE™) PORT SIGNALS

Signal Name	Signal Type	State during Reset	Signal Description
DSI	Input	output, Driven Low	<b>Debug Serial Input (DSI)</b> The DSI signal is the signal through which serial data or commands are provided to the OnCE port controller.
OS0	Output		<b>Operating Status 0 (OS0)</b> When the DSP is not in the Debug mode, the OS0 signal provides information about the DSP status if it is an output and used in conjunction with the OS1 signal.
DSCK	Input	Output, Driven Low	<b>Debug Serial Clock (DSCK)</b> The DSCK/OS1 signal, when an input, is the signal through which the serial clock is supplied to OnCE port.
OS1	Output		<b>Operating Status 1(OS1)</b> If the OS1 signal is an output and used in conjunction with the OS0 signal, it provides information about the DSP status when the DSP is not in the Debug mode.
DSO	Output	Driven-High	<b>Debug Serial Output (DSO)</b> The DSO line provides the data contained in one of the OnCE port controller registers as specified by the last command received from the command controller.
DR	Input	Input	<b>Debug Request (DR)</b> The debug request input provides a means of entering the Debug mode of operation.



3	IF	1000kHz (999kHz)	1000kHz (999kHz)	Ac voltmeter and oscilloscope to speaker terminal of L or R channel	T3 AM IFT	Maximize audio output
4	Tuned Level	1000kHz(999kHz) 800 $\mu$ V/m	1000kHz (999kHz)		VR1	"Tuned" flag in the FL display light on

### 3-3. FM Alignment

- Output of signal generator should not be greater than necessary to obtain an optimum output reading.
- Signal generator deviation : USA/Canada/Korea : 75kHz, Europe : 40kHz
- RF signal frequency : 1 kHz
- Switch : Press the BAND button to FM and the FM MODE button to MONO

Step	Subject	Signal Generator Frequency	Set Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	Tuning Band Width	98.1MHz (98MHz)	98.1MHz (98MHz)	DC Voltmeter to R26(PCB1)	T4	Zero reading on DC Voltmeter
2	THD	98.1MHz (98MHz)	98.1MHz (98MHz)	Distortion meter to TAPE OUT jack of L or R channel	T5	Minimize distortion
3	Tuned Level	98.1MHz(98MHz) SSG output level: 10 $\mu$ V/m	98.1MHz (98MHz)		VR2	"Tuned" flag in the FL display light on

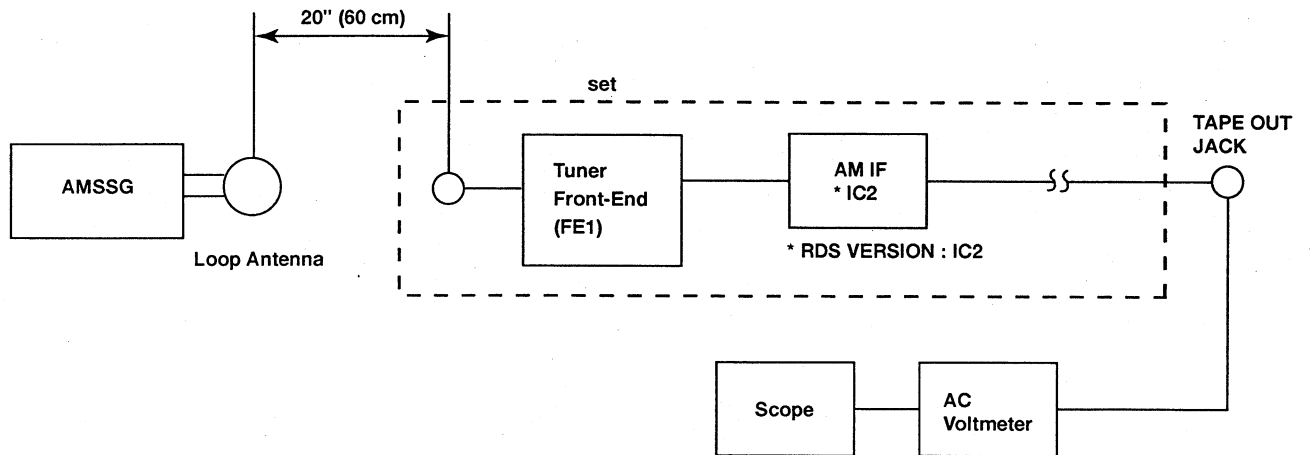
### 3-4. MPX Alignment

- Signal generator frequency : 98 MHz
- Signal generator deviation : USA : 75kHz, Europe : 40kHz
- RF signal frequency : 1 kHz
- Signal generator output level : 1000  $\mu$ V/m
- Connect signal generator to FM antenna terminal through FM dummy antenna (75 $\Omega$ )
- Switch : Press the BAND button to FM and the FM MODE button to STEREO

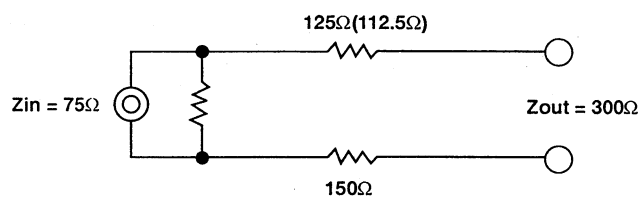
Step	Subject	19kHz Modulation Level	Set Generator Setting	Equipment Connection	Adjustment Point	Adjust for
1	Separation R → L	8% Modulation	Pilot on	AC voltmeter to speaker terminal of R channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of L channel		AC voltmeter reading should be at least 40 dB below
2	Separation L → R	8% Modulation	Pilot on	AC voltmeter to speaker terminal of L channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of R channel		AC voltmeter reading should be at least 40 dB below
If you could not obtain -40 dB readings in steps 1 and 2, readjust VR3 until you obtain -40 dB readings. Nominal is -45 dB. (Europe : Nominal -42 dB, Limit -37 dB)						

## 4. Equipment Connection

### 4-1. AM Alignment Connection

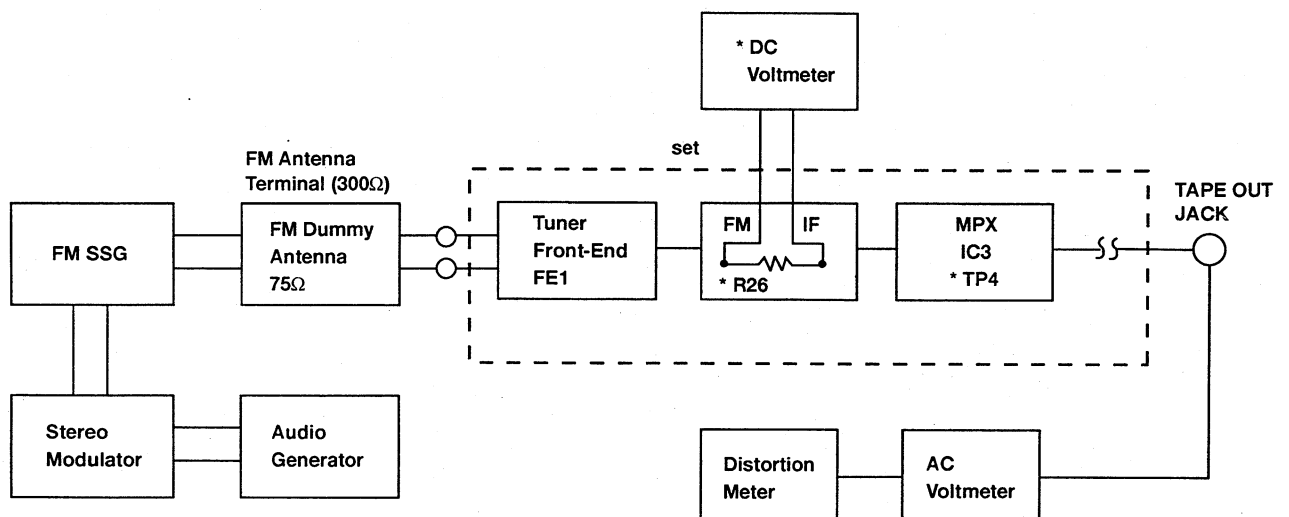


### 4-2. FM Dummy Antenna



FM Dummy Antenna to 300 $\Omega$  Antenna terminal of system.

### 4-3. FM RF/IF and MPX Alignment Connection



## TROUBLESHOOTING

Symptom	Cause and Remedy
Receiver inoperative. (FL indicator does not light.)	A) Faulty AC power cord. Replace. B) Defective the power switch. Replace. C) Broken wire in the power transformer. Replace. D) Blown fuse. Replace the fuse.
Fuse blows when power is turned on.	A) Defective power transformer. Replace. B) Short on the primary or secondary of the transformer circuitry. Repair the short. C) Damaged rectifier D102-D115, D112~D120 or damaged transistor Q213L/R/C/SL/SR, Q214L/R/C/SL/SR. D) Short circuit in the amplifier circuit. Repair the shorted component(s) in the amplifier circuit.
Power indicator lights but no sound from both channels.	A) Defective in transistor Q213L/R, Q214L/R the AMP501 Board. B) Pulled out of correct speaker switchch.
One channel does not work when volume is at maximum with a test signal applied to the center terminal of volume control of the dead channel.	A) Defective in transistor Q213L/R/C/SL/SR or Q214L/R/C/SL/SR on the AMP501 Board. Replace the defect. B) Break in copper foil of printed circuit board. Repair the defect. C) Short in speaker output terminal. Repair or replace.
Speaker works normally but headphones inoperative.	A) Headphone plug does not match with jack. Replace the jack. B) Defective resistor R732L/R. Replace.
FM inoperative.	A) Defective front-end(FE). Replace. B) Defective FM switch. Replace the switch. C) Defective transistor Q3 and IC's (IC2,IC3). Replace the defective transistor or IC(S). D) Defective coil T4, T5. Replace the coil(s). E) Defective lead-in. Repair or replace the lead-in. F) Ceramic filter CF1, CF3 defective. Replace the defective ceramic filter(s).
Poor multiplex separation.	A) Improper adjustment. Readjust VR3. B) IC3 defective. Replace. C) Variable resistor VR3 defective. Replace the variable resistor.
Manual tune inoperative. (Up/Down) (AM or FM)	A) Poor contact in Up/Down key. B) Defective IC301. Replace.



Symptom	Cause and Remedy
Stereo indicator does not light.	<p>A) defective indicator in FIP. Replace.</p> <p>B) Improper adjustment of VR2 of Tuner Board. Make readjustment.</p> <p>C) Defective IC2. Replace the defective component.</p>
AM inoperative.	<p>A) Damaged IC2 of Tuner Board. Replace.</p> <p>B) Defective T1, T2, T3 or CF4 of Tuner Board. Replace the defective component(s).</p> <p>C) Defective varicap diodes VD1 or VD2. Replace varicap diodes(s).</p> <p>D) Damaged AM loop Antenna. Repair or replace.</p>
Bass control has no effect.	<p>A) Variable resistor Bass defective. Replace.</p>
Treble control has no effect.	<p>A) Variable resistor Treble defective.</p>
FM Mode has no effect.	<p>A) Defective FM Mode switch. Replace.</p>
Auto tune inoperative. (Up/Down)	<p>A) Poor contact in Up/Down key. Repair or replace.</p> <p>B) Defective IC301. Replace.</p> <p>C) Defective Tuner Circuit components. Replace.</p> <p>D) In case of FM only, improper adjustment of FM front-end. Readjust.</p>
FM volume is insufficient.	<p>A) If volume from both L and R channels is not loud enough : Front end section defective. faulty IC2, Coil T4 or T5. If sound of one channel is not loud enough : Defective VR3.</p>
Memory setting inoperative.	<p>A) Poor contact in memory keys 1-10. Replace the defective component.</p> <p>B) Defective IC301. Replace the defective component.</p>
FIP inoperative.	<p>A) FIP defective. Replace.</p> <p>B) Defective IC301. Replace.</p> <p>C) Defective X-TAL 301. Replace.</p>
Noisy volume control.	<p>A) Defective volume. Replace.</p>
Remote Control Unit inoperative.	<p>A) Weak battery. Replace.</p> <p>B) Defective. Replace.</p> <p>C) Defective IC301 (Front Board). Replace.</p>

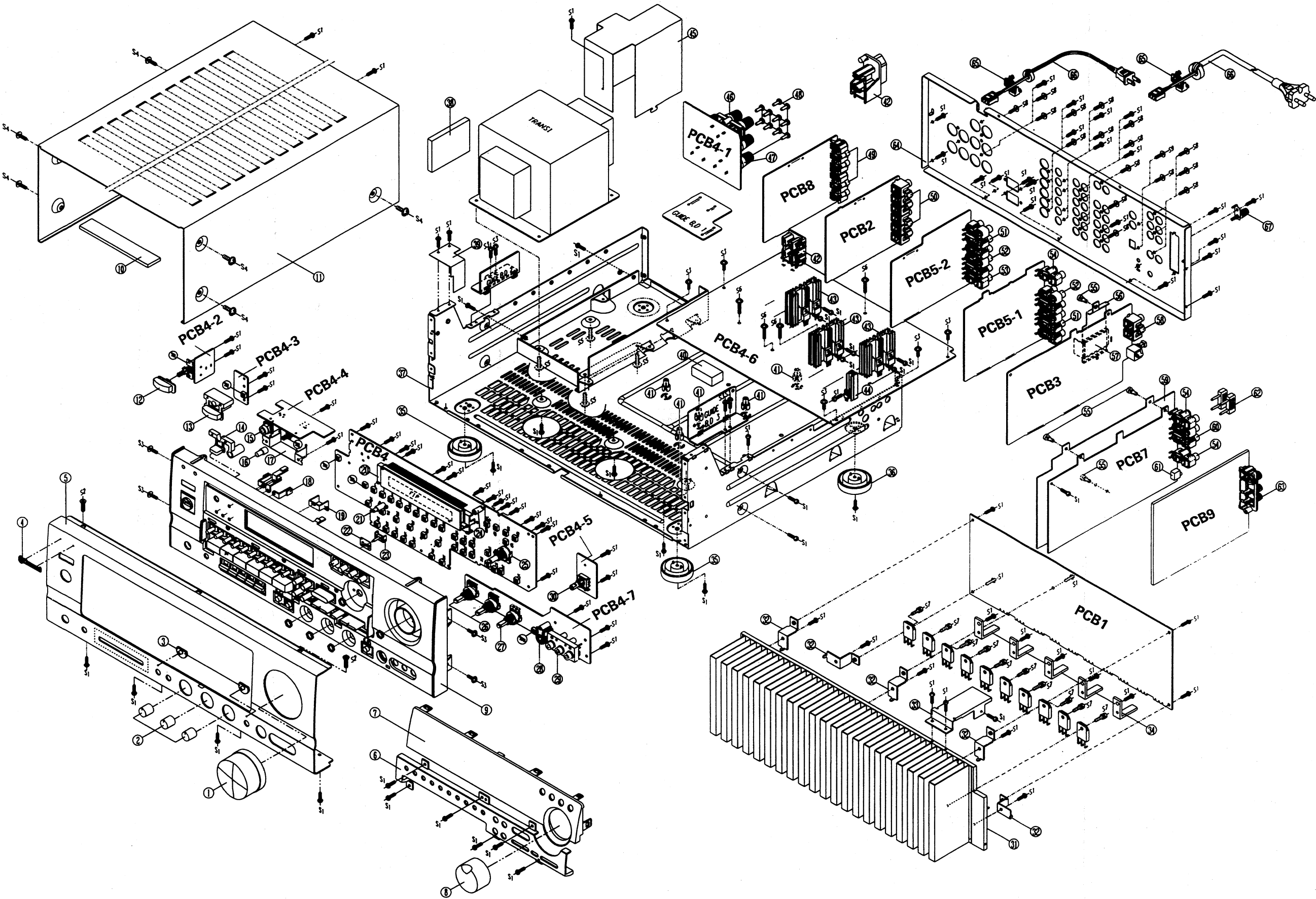
# MECHANICAL PARTS LIST

\* Parts without version mentioned are common ones.

NO.	PARTS NO.	DISCRIPTION	Q'TY	VERSION	NO.	PARTS NO.	DISCRIPTION	Q'TY	VERSION
<b>PACKAGE</b>					36	4000040201010	FOOT PL	2	
	6017040990191	CARTON BOX	1		37	3208056416200	CH-MAIN+BKT-PCB CHASSIS	1	
	6230042794010	CUSHION POLY	1		38	4050042695010	CUSHION, SPONGE RUBBER	1	
	6320040052010	FILM SOFT PE	1		39	1240044100010	INSULATION, TR	1	
	6330040092010	POLY BAG	1		40	4050044345010	CUSHION, SPONGE	1	
	5707046860011	INSTRUCTION MANUAL	1	RDS	41	4300040561010	SPACER KNOB	5	
	5707046860011	INSTRUCTION MANUAL	1	D	42	G435040070000	AC OUTLET CCT1304-0212	1	A
	5707046870010	INSTRUCTION MANUAL	1	K		G435000160010	AC OUTLET A102D0020P	1	K
	5707046880010	INSTRUCTION MANUAL	1	A		G435040110000	AC OUTLET YKE31-0090	1	D/RDS
<b>ACCESSORIES</b>					43	2120043538030	HEAT SINK, REG TR	3	
	8300040640010	REMOCON	1	A/D/RDS	44	2120044348010	HEAT SINK, REG TR (15X45)	1	
	8300040640020	REMOCON	1	K	46	G611040350000	SPEAKER TERMNAL 2P	1	
	E601010000000	AM ANTENNA, LOOP	1		47	G614040340000	SPEAKER TERMINAL 8P	1	
	E605010010000	ANTENNA,WIRE	1		48	2410040353010	BUSHING TERMINAL	10	D/RDS
	L109284007100	MATCHING TRANS	1	A/K	49	G402042190000	JACK, D6.5	2	
	L109284007200	MATCHING TRANS	1	D/RDS	50	G606300125010	TER,RCA 3PIN	2	
<b>MISCELLANEOUS</b>					51	G603600920030	TER,RCA 6PIN	2	
	8200281017210	POWER TRANS, 120V/60Hz	1	A	52	G60240045003A	TER,RCA 4PIN	2	
	8200281017360	POWER TRANS, 220V/60Hz	1	K	53	G601200930030	TER,RCA 2PIN	1	
	8200281017460	POWER TRANS, 230V/50Hz	1	D/RDS	54	G601200440020	TER,RCA 2PIN	1	
<b>CABINET &amp; CHASSIS</b>					55	1560040036010	SNAP RIVET	4	
1	5087041538010	MAIN KNOB	1		56	2120045058010	HEAT SINK	1	
2	5097050641010	ROTARY KNOB	3		57	1220041033010	TAPE 3M	1	
3	4350041551010	GUIDE	2		58	G601200099020	TER,RCA 2PIN	1	
4	5637040591010	BADGE, SHERWOOD/NEW CASTLE	1	A/D/RDS	59	3070046716010	PLATE SHIELD	1	
	5637040501010	BADGE, INKEL	1	K	60	G602400450050	TER,RCA 4PIN	1	
5	3067046398010	FRONT PANEL	1	A	61	G402042070000	JACK,D6.5	1	A
	3067046398020	FRONT PANEL	1	RDS	62	L063040750000	JUMPER PLUG	2	
	3067046398030	FRONT PANEL	1	D	63	G590040470000	ANT TERMINAL	1	A/D
	3067046398040	FRONT PANEL	1	K		G59004046000A	ANT TERMINAL	1	D/RDS
6	5127041071010	DECORATION	1	A	64	3207053476010	BACK CHASSIS	1	K
	5127041071020	DECORATION	1	D/RDS		3207053476020	BACK CHASSIS	1	A
	5127041071030	DECORATION	1	K		3207053476030	BACK CHASSIS	1	RDS
7	5077045182010	DISPLAY WINDOW	1	A		3207053476040	BACK CHASSIS	1	D
	5077045182020	DISPLAY WINDOW	1	D/RDS	65	4380040162010	STOPPER CORD	1	
	5077045182030	DISPLAY WINDOW	1	K	66	L061040210010	AC CORD	1	K
8	5087040778010	ENCODER KNOB	1			L061040050010	AC CORD	1	A
9	3417041301010	FRONT BODY	1	A		L061040090010	AC CORD	1	D/RDS
	3417041301020	FRONT BODY	1	RDS	67	3790000090000	SCREW GND	1	
	3417041301030	FRONT BODY	1	D	<b>SWITCHES</b>				
	3417041301040	FRONT BODY	1	K	SW1	G000041610000	PUSH SW (ESB-8279V)	1	D/RDS
10	4050043525010	CUSHION, SPONGE	1		SW2	G180000270010	TACT SW	1	
11	3000045406040	CABINET, VCM1.1T/TOP	1		SW3	G000040960000	PUSH SW (SPLL 19X1071)	1	
12	509005399101A	BTN POWER	1	D/RDS	SW4-SW31	G180000270010	TACT SW	28	
13	5090059071010	POWER BUTTON	1	A/K	SW32-SW36	G180000270010	TACT SW	5	RDS
14	5090059231010	STAND BY BUTTON	1		SW37-SW44	G180000270010	TACT SW	8	
15	G402040161330	JACK, D6.5 (HTJ064-11D)	1		<b>SCREWS</b>				
16	5090066821010	PUSH BUTTON	1		S1	B020030083B10	SCREW, +2S 3*8 B-TYPE BK/BH	98	
17	4010057016010	PHONE BRACKET	1		S2	B010530083F10	SCREW, +#2FTC 3X8B	2	
18	5160040643010	STAND-BY INDICATOR	4		S3	B020030061W1	SCREW, #B WPTT3X6Y	18	
19	5160041151010	ABS/DTS INDICATOR	1		S4	B020940083B10	SCREW, +3S 4*8 BK/BH	6	
20	4320040841010	HOLDER FL	2		S5	B020940083W1	SCREW, +WSAM 4X8B	4	
21	4320020581010	ABS/LED(DTS) HOLDER	1		S6	B020030181X10	SCREW, #BWPTT 3X18Y	4	
22	3070046732010	LIGHT SHIELD	1		S7	1507041146010	SCREW, +2S 3*16 P+S-WASHER ZNY/	10	
23	5160041141010	GUIDER INDICATOR	1		S8	1507040996010	SCREW, +G.N.D.	16	
24	4350042041010	LED GUIDE	1		S9	1507040996020	SCREW, CU-COATING/GND	1	
25	C450042030010	ROTARY VR (EC16B24D0002-ZZZ)	1						
26	C455121402300	ROTARY VR 16MM (100K)	2						
27	C455111402000	ROTARY VR 16MM (100K)	1						
28	G402041810000	S-VHS JACK, D6.5	1						
29	G606040300000	TER,RCA 3PIN	1						
30	C49004106001A	MOTOR VR	1						
31	2120044988010	POWER HEAT SINK	1						
32	4010056906010	HEAT SINK BRACKET	5						
33	4010056896010	PCB BRACKET	1						
34	4010057166010	BRACKET	5						
35	4007041021010	FOOT AL	2	A/K					
	4007040201010	FOOT PL (H S)	2	D/RDS					

EXPLODED VIEW

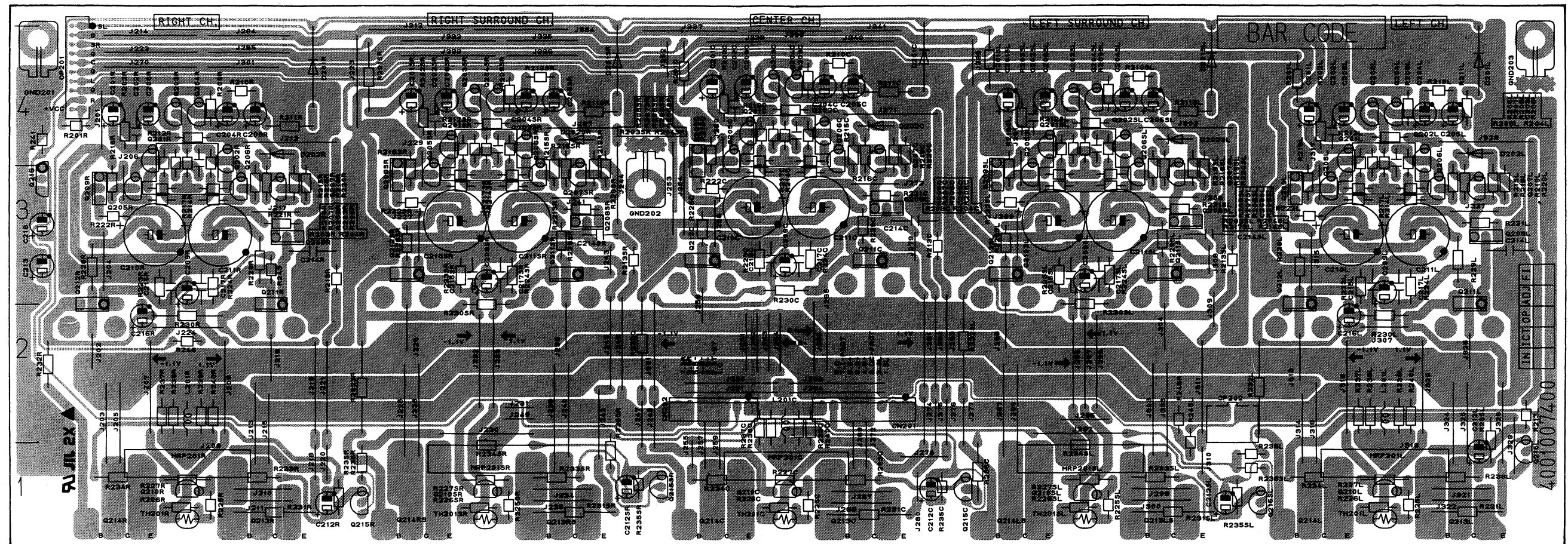
Model No. : R-945R/R-945RDS



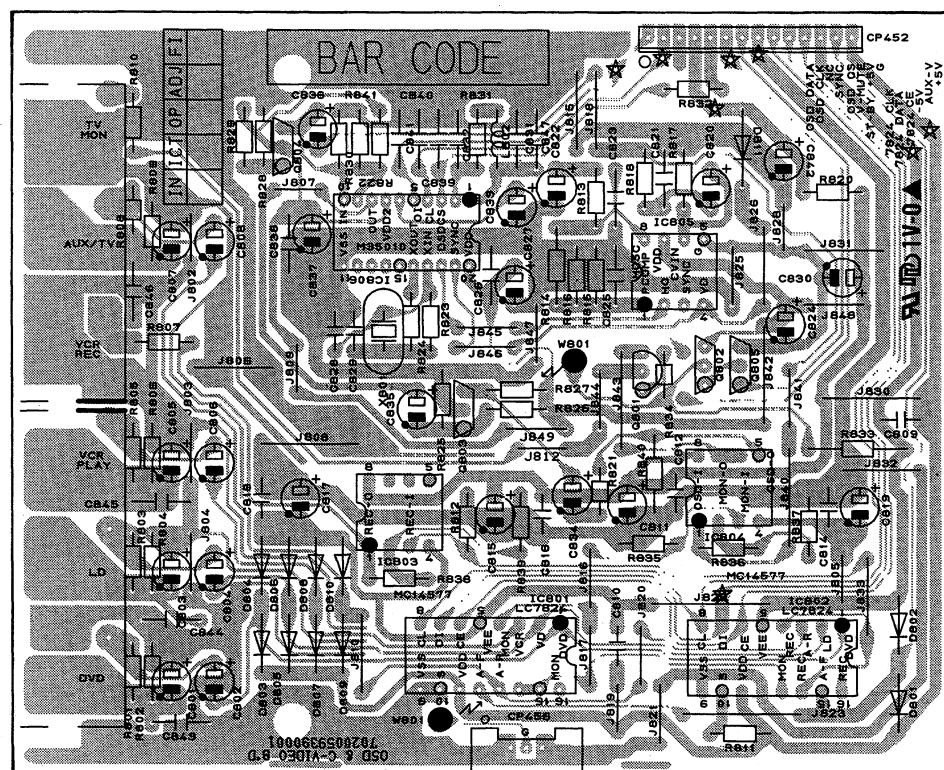
# PRINTED CIRCUIT BOARDS

Model No. : R-945R/R-945RDS

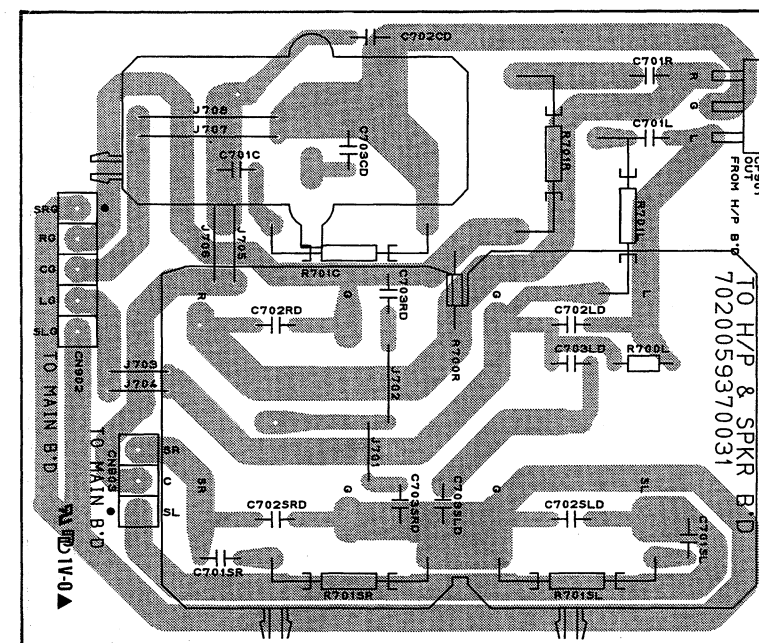
PCB1 (AMP)



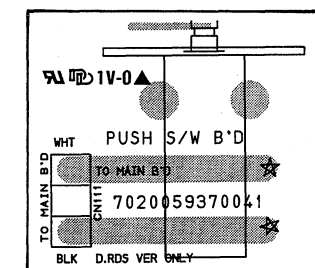
PCB2 (C-VIDEO)



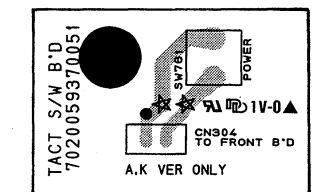
PCB4-1 (SPKR)



PCB4-2 (PUSH SW)



PCB4-3 (TACT SW)





36



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37



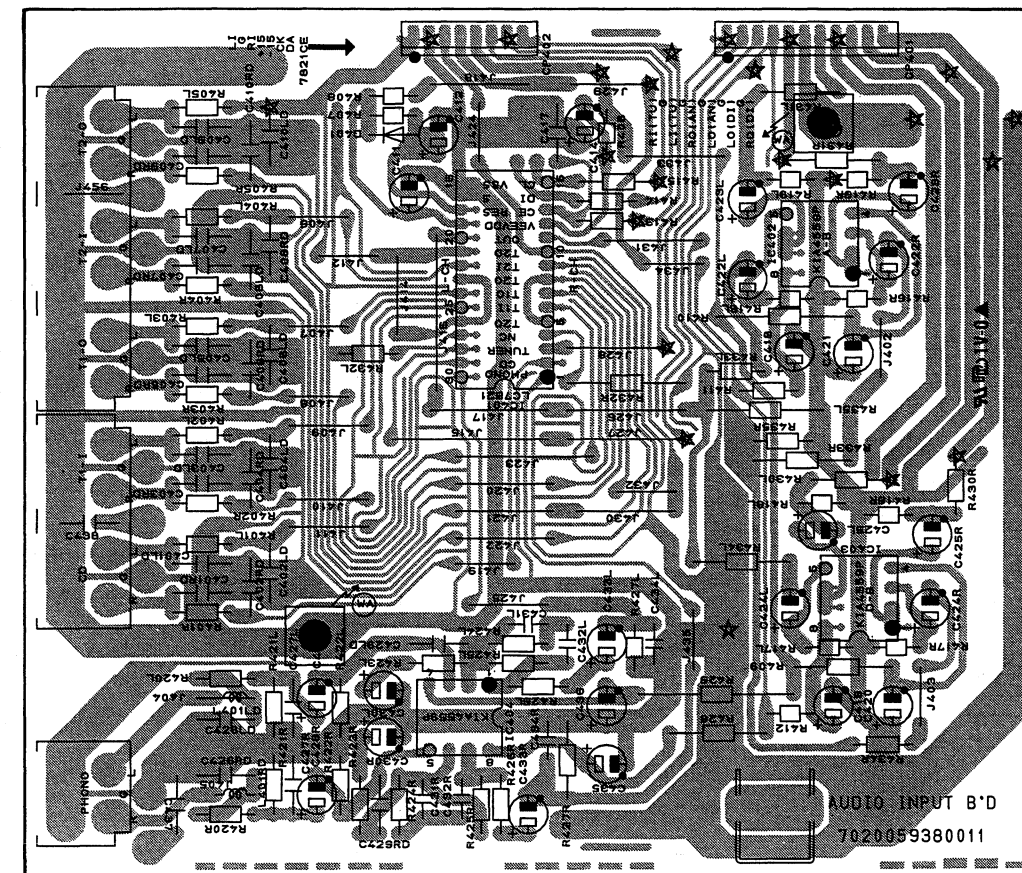
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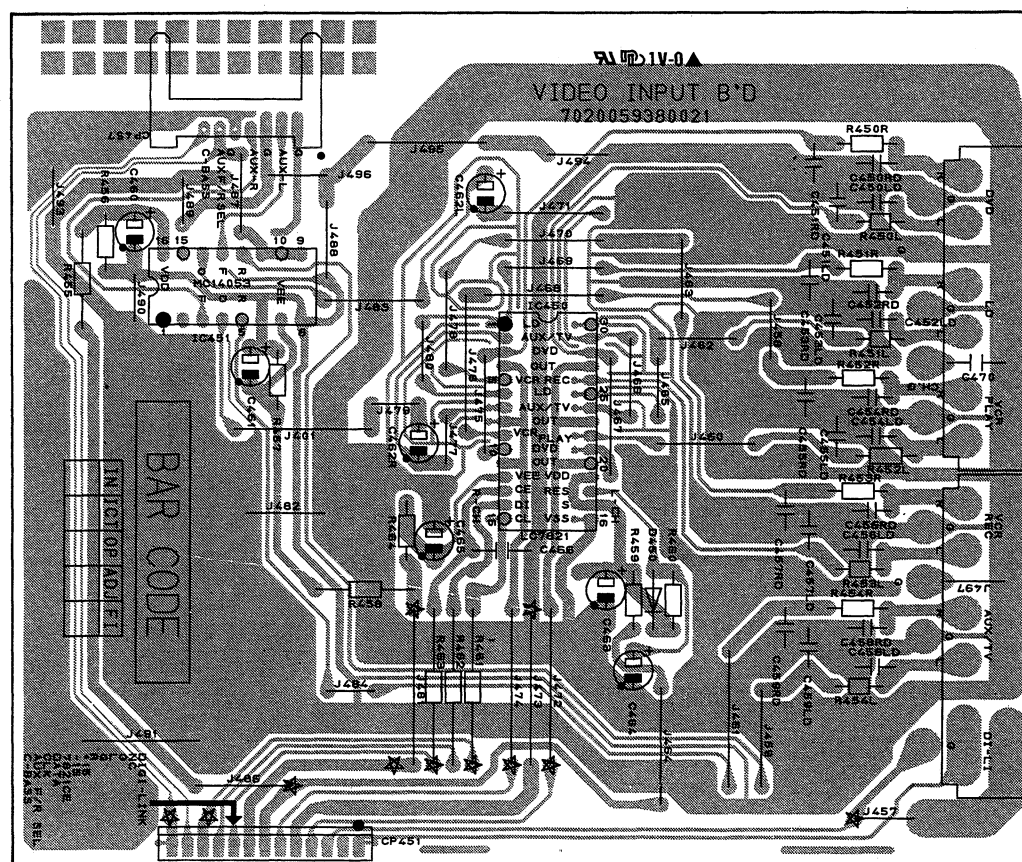
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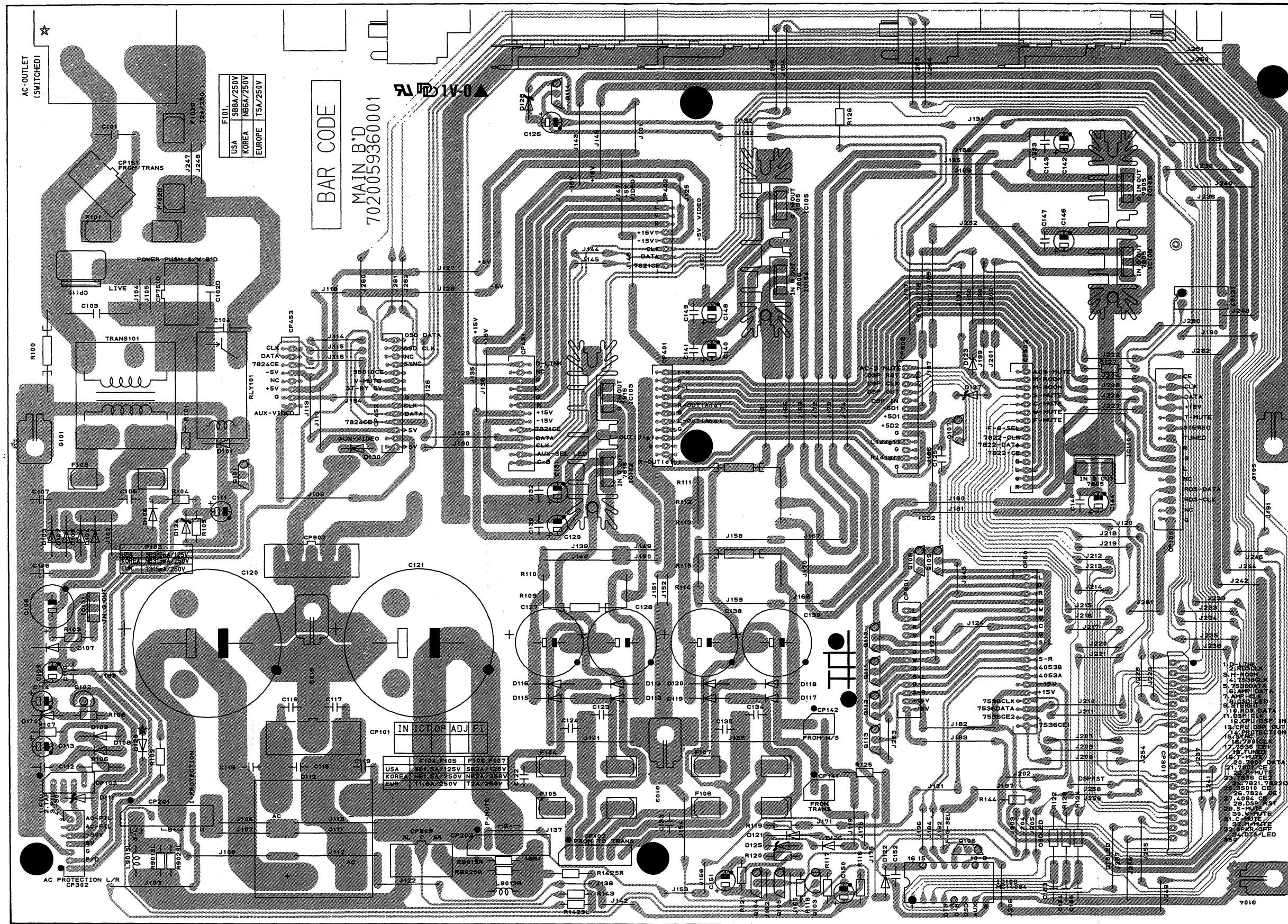
**-BOTTOM-**





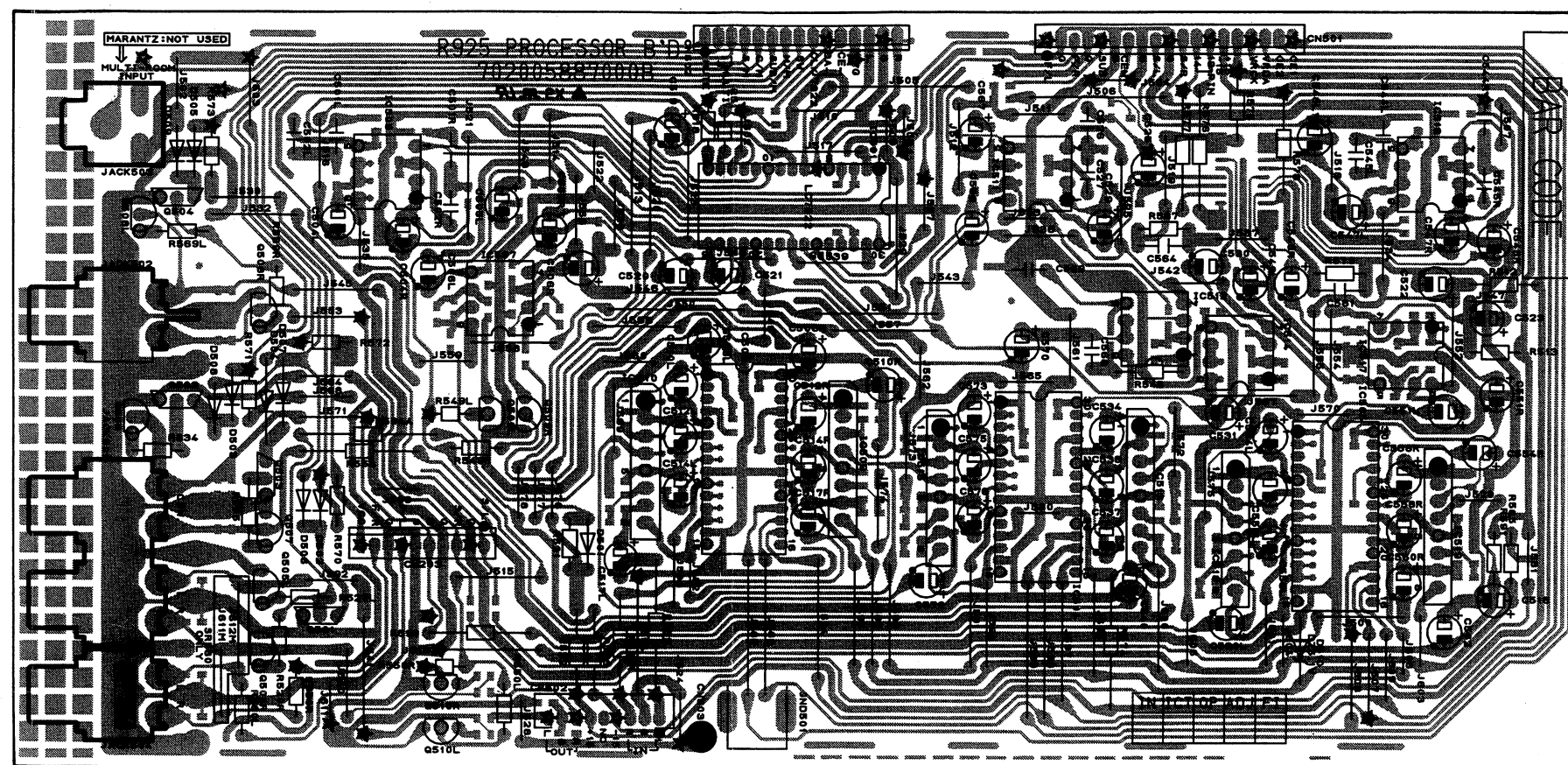
# PCB6 (MAIN)

Model No. : R-945R/R-945RDS

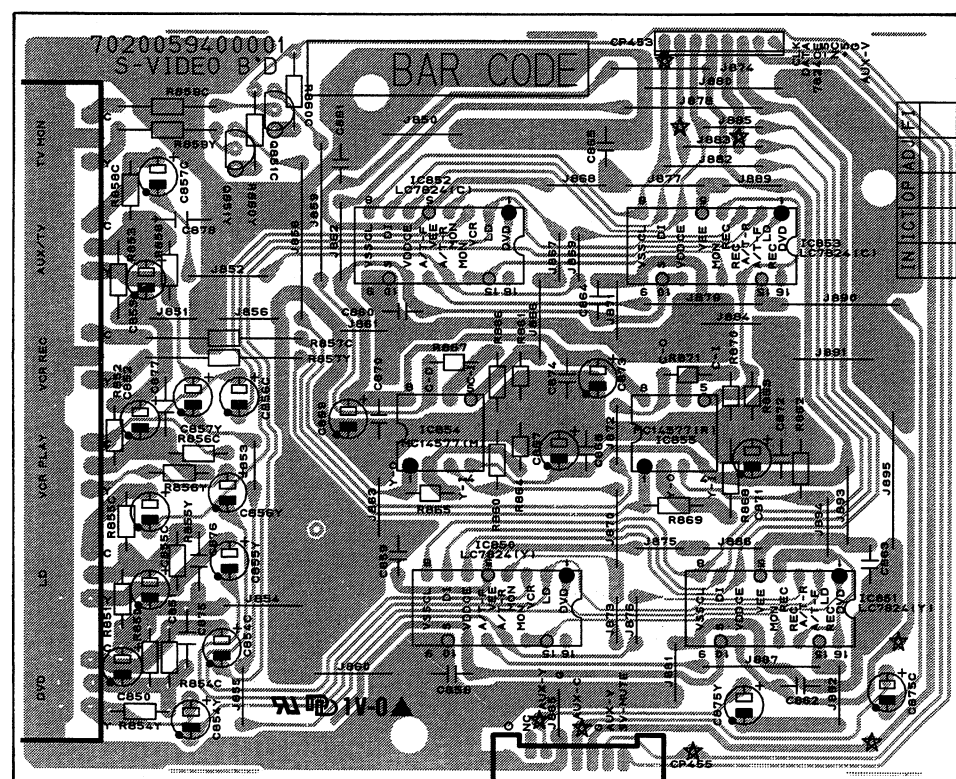




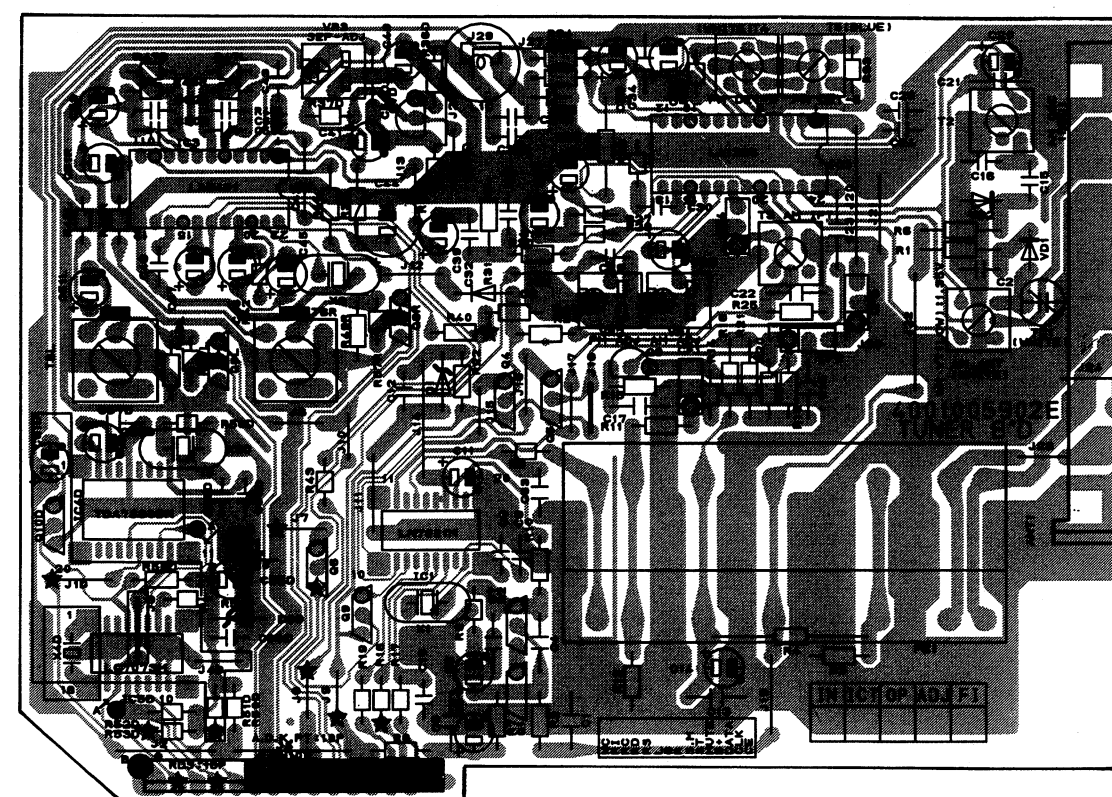
### PCB7 (PROCESSOR)



### PCB8 (S-VIDEO)



### PCB9 (TUNER)





# ELECTRICAL PARTS LIST

\* Parts without version mentioned are common ones.

REF NO.	DESCRIPTION	PARTS NO.	QTY	VER.	REF NO.	DESCRIPTION	PARTS NO.	QTY	VER.
PCB1	ASSEMBLY P.C.BOARD AMP	7028040954000			R204SL/SR	METAL FILM	15 ohm 1/5W J C06001506P520	2	
	CAPACITORS				R205C/L/R	METAL FILM	750 ohm 1/5W J C06007516P520	2	
C201C/L/R	ELECT GE 85C 4.7 uF 50V M D04047087100	3			R205SL/SR	METAL FILM	750 ohm 1/5W J C06007516P520	3	
C201SU/SR	ELECT GE 85C 4.7 uF 50V M D04047087100	2			R206C/L/R	METAL FILM	750 ohm 1/5W J C06007516P520	3	
C202C/L/R	CERAMIC T C AXIAL 100 pF 50V J D001101077530	3			R206SL/SR	METAL FILM	750 ohm 1/5W J C06007516P520	2	
C202SU/SR	CERAMIC T C AXIAL 100 pF 50V J D001101077530	2			R207C/L/R	METAL FILM	680 ohm 1/5W J C06006816P520	3	
C203C/L/R	CERAMIC HIK AXIAL 680 pF 50V K D005681077530	3			R207SL/SR	METAL FILM	680 ohm 1/5W J C06006816P520	2	
C203SU/SR	CERAMIC HIK AXIAL 680 pF 50V K D005681077530	2			R208C/L/R	METAL FILM	68 ohm 1/5W J C06006806P520	3	
C204C/L/R	ELECT GE 85C 33 uF 25V M D040330084100	3			R208SL/SR	METAL FILM	68 ohm 1/5W J C06006806P520	2	
C204SU/SR	ELECT GE 85C 33 uF 25V M D040330084100	3			R209C/L/R	METAL FILM	150 ohm 1/5W J C06001516P520	3	
C205C/L/R	ELECT GE 85C 470 uF 10W V D040471082100	2			R209SL/SR	METAL FILM	150 ohm 1/5W J C06001516P520	2	
C205SU/SR	ELECT GE 85C 470 uF 10W V D040471082100	2			R210C/L/R	CARBON FILM	10 Kohm 1/5W J C00001036P520	3	
C206C/L/R	ELECT GE 85C 470 uF 10W V D040471082100	2			R210SL/SR	CARBON FILM	10 Kohm 1/5W J C00001036P520	2	
C206SU/SR	ELECT GE 85C 470 uF 10W V D040471082100	2			R211C/L/R	CARBON FILM	43 Kohm 1/5W J C00004336P520	3	
C209C/L/R	ELECT GE 85C 10 uF 50V M D040100087100	3			R211SL/SR	CARBON FILM	43 Kohm 1/5W J C00004336P520	2	
C209SU/SR	ELECT GE 85C 10 uF 50V M D040100087100	2			R212C/L/R	CARBON FILM	13 Kohm 1/5W J C00001326P520	3	
C210C/L/R	ELECT GE 85C 470 uF 63V M D040471088020	3			R212SL/SR	CARBON FILM	13 Kohm 1/5W J C00001326P520	2	
C210SU/SR	ELECT GE 85C 470 uF 63V M D040471088020	2			R213C/L/R	CARBON FILM	33 Kohm 1/5W J C00003336P520	3	
C211C/L/R	ELECT GE 85C 470 uF 63V M D040471088020	3			R213SL/SR	CARBON FILM	33 Kohm 1/5W J C00003336P520	2	
C211SU/SR	ELECT GE 85C 470 uF 63V M D040471088020	2			R214C/L/R	METAL FILM	560 ohm 1/5W J C06005616P520	3	
C212C/L/R	ELECT GE 85C 10 uF 50V M D040100087100	3			R214SL/SR	METAL FILM	560 ohm 1/5W J C06005616P520	2	
C212SU/SR	ELECT GE 85C 10 uF 50V M D040100087100	2			R215C/L/R	METAL FILM	560 ohm 1/5W J C06005616P520	3	
C213	ELECT GE 85C 1 uF 50V M D040010087100	1			R215SL/SR	METAL FILM	560 ohm 1/5W J C06005616P520	2	
C214C/L/R	CERAMIC T C AXIAL 15 pF 50V J D001150067530	3			R216C/L/R	METAL FILM	560 ohm 1/5W J C06005616P520	3	
C214SU/SR	CERAMIC T C AXIAL 15 pF 50V J D001150067530	2			R216SL/SR	METAL FILM	560 ohm 1/5W J C06005616P520	2	
C215C	CERAMIC T C AXIAL 68 pF 50V J D001680067530	1			R217C/L/R	METAL FILM	560 ohm 1/5W J C06005616P520	3	
C215SU/SR	CERAMIC T C AXIAL 68 pF 50V J D001680067530	2			R217SL/SR	METAL FILM	560 ohm 1/5W J C06005616P520	2	
C216L/R	ELECT GE 85C 10 uF 50V M D040100087100	2			R218C/L/R	METAL FILM	560 ohm 1/5W J C06005616P520	3	
C218	ELECT GE 85C 47 uF 50V M D040470087100	1			R218SL/SR	METAL FILM	560 ohm 1/5W J C06005616P520	2	
	CONNECTOR				R219C/L/R	METAL FILM	560 ohm 1/5W J C06005616P520	3	
CN201	CTM 0810 5264,5395 1007#20 2 5	L021081034810	1		R219SL/SR	METAL FILM	560 ohm 1/5W J C06005616P520	2	
CN202	CTM 0708 5264,5395 1007#20 2 5	L021070831810	1		R220C/L/R	METAL FILM	560 ohm 1/5W J C06005616P520	3	
CP202	CN WAFER 3 96MM	L104353130200	1		R220SL/SR	METAL FILM	560 ohm 1/5W J C06005616P520	2	
CP203	CN WAFER 2 0MM	L101220100000	1		R221C/L/R	METAL FILM	82 ohm 1/5W J C06008206P520	3	
	DIODES				R221SL/SR	METAL FILM	82 ohm 1/5W J C06008206P520	2	
D201C/L/R	1N4148, SWITCHING	K000414801520	3		R222C/L/R	METAL FILM	82 ohm 1/5W J C06008206P520	3	
D201SU/SR	1N4148, SWITCHING	K000414801520	2		R222SL/SR	METAL FILM	82 ohm 1/5W J C06008206P520	2	
D202C/L/R	1N4148, SWITCHING	K000414801520	3		R223C/L/R	CARBON FILM	22 Kohm 1/5W J C00002236P520	3	
D202SU/SR	1N4148, SWITCHING	K000414801520	2		R223SL/SR	CARBON FILM	22 Kohm 1/5W J C00002236P520	2	
	COILS				R224C/L/R	CARBON FILM	22 Kohm 1/5W J C00002236P520	3	
L201C/L/R	INDUCTOR COIL 0.5UH	D330900001320	3		R224SL/SR	CARBON FILM	22 Kohm 1/5W J C00002236P520	2	
	TRANSISTORS				R225C/L/R	METAL FILM	2.2 Kohm 1/5W J C06002226P520	3	
Q201C/L/R	KTA1268, PNP	J5001268B0050	3		R225SL/SR	METAL FILM	2.2 Kohm 1/5W J C06002226P520	2	
Q201SU/SR	KTA1268, PNP	J5001268B0050	2		R226C/L/R	METAL FILM	680 ohm 1/5W J C06006816P520	3	
Q202C/L/R	KTA1268, PNP	J5001268B0050	3		R226SL/SR	METAL FILM	680 ohm 1/5W J C06006816P520	2	
Q202SU/SR	KTA1268, PNP	J5001268B0050	2		R227C/L/R	METAL FILM	12 Kohm 1/5W J C06001226P520	3	
Q203C/L/R	KTA1268, PNP	J5001268B0050	3		R227SL/SR	METAL FILM	12 Kohm 1/5W J C06001226P520	2	
Q203SU/SR	KTA1268, PNP	J5001268B0050	2		R228C/L/R	METAL FILM	270 ohm 1/5W J C06002716P520	3	
Q204C/L/R	KTA1266, PNP	J5001266Y0050	3		R228SL/SR	METAL FILM	270 ohm 1/5W J C06002716P520	2	
Q204SU/SR	KTA1266, PNP	J5001266Y0050	2		R229C/L/R	METAL FILM	270 ohm 1/5W J C06002716P520	3	
Q205C/L/R	KTC2240BL (BKTC3200), NPN	J5023200B0050	3		R229SL/SR	METAL FILM	270 ohm 1/5W J C06002716P520	2	
Q205SU/SR	KTC2240BL (BKTC3200), NPN	J5023200B0050	2		R230C/L/R	METAL FILM	82 ohm 1/5W J C06008206P520	3	
Q206C/L/R	KTC2240BL (BKTC3200), NPN	J5023200B0050	3		R230SL/SR	METAL FILM	82 ohm 1/5W J C06008206P520	2	
Q206SU/SR	KTC2240BL (BKTC3200), NPN	J5023200B0050	2		R231C/L/R	METAL FILM	3.3 ohm 1/5W J C0603R306P520	3	
Q207C/L/R	KTA1268, PNP	J5001268B0050	3		R231SL/SR	METAL FILM	3.3 ohm 1/5W J C0603R306P520	2	
Q207SU/SR	KTA1268, PNP	J5001268B0050	2		R232C/L/R	METAL FILM	3.3 ohm 1/5W J C0603R306P520	3	
Q208C/L/R	2SA1360, PNP	J5001360O000D	3		R232SL/SR	METAL FILM	3.3 ohm 1/5W J C0603R306P520	2	
Q208SU/SR	2SA1360, PNP	J5001360O000D	2		R233C/L/R	METAL FILM	18 Kohm 1/5W J C06001826P520	3	
Q209C/L/R	2SC3423, NPN	J5023423O0000	3		R233SL/SR	METAL FILM	18 Kohm 1/5W J C06001826P520	2	
Q209SU/SR	2SC3423, NPN	J5023423O0000	2		R234C/L/R	CARBON FILM	2 Kohm 1/5W J C00002026P520	3	
Q210C/L/R	2SC1740, NPN	J5021740Y0050	3		R234SL/SR	CARBON FILM	2 Kohm 1/5W J C00002026P520	2	
Q210SU/SR	2SC1740, NPN	J5021740Y0050	2		R235C/L/R	METAL FILM	910 ohm 1/5W J C06009116P520	3	
Q211C/L/R	2SC4883, NPN	J5024883Y0000	3		R235SL/SR	METAL FILM	910 ohm 1/5W J C06009116P520	2	
Q211SU/SR	2SC4883, NPN	J5024883Y0000	2		R236C/L/R	CARBON FILM	68 Kohm 1/5W J C00006826P520	3	
Q212C/L/R	2SA1859, PNP	J5001859Y0000	3		R236SL/SR	CARBON FILM	68 Kohm 1/5W J C00006826P520	2	
Q212SU/SR	2SA1859, PNP	J5001859Y0000	2		R237C/L/R	METAL FILM	39 ohm 1/5W J C06003906P520	3	
Q213C/L/R	2SC5200, NPN	J502520000010	3		R238C/L/R	METAL FILM	39 ohm 1/5W J C06003906P520	2	
Q213SU/SR	2SC5200, NPN	J502520000010	2		R239C/L/R	METAL FILM	39 ohm 1/5W J C06003906P520	3	
Q214C/L/R	2SA1943, PNP	J500194300010	3		R240C/L/R	METAL FILM	39 ohm 1/5W J C06003906P520	2	
Q214SU/SR	2SA1943, PNP	J500194300010	2		R241	CARBON FILM	150 Kohm 1/5W J C00001546P520	3	
Q215C/L/R	KTC2240BL (BKTC3200), NPN	J5023200B0050	3		R243	METAL FILM	4.7 Kohm 1/5W J C06004726P520	1	
Q215SU/SR	KTC2240BL (BKTC3200), NPN	J5023200B0050	2		R245L/R	CARBON FILM	22 Kohm 1/5W J C00002236P520	2	
Q216	DTC114YS, NPN	J6020114Y0050	1		R246	METAL FILM	4.7 Kohm 1/5W J C06004726P520	1	
	RESISTORS					CEMENT MPRS			
R201C/L/R	METAL FILM 1 Kohm 1/5W J C06001026P520	3			MPR201C/L/R	CEMENT MPR	0.39 ohm 5W J C144R39069300	3	
R201SU/SR	METAL FILM 1 Kohm 1/5W J C06001026P520	2			MPR201SU/SR	CEMENT MPR	0.39 ohm 5W J C144R39069300	2	
R202C/L/R	CARBON FILM 33 Kohm 1/5W J C00003336P520	3				THERMISTORS			
R202SU/SR	CARBON FILM 33 Kohm 1/5W J C00003336P520	2			TH201C/L/R	THERMISTOR NTC5D-302KPC, 3K	F340530200000	3	
R203C/L/R	METAL FILM 15 ohm 1/5W J C06001506P520	3			TH201SU/SR	THERMISTOR NTC5D-302KPC, 3K	F340530200000	1	
R203SU/SR	METAL FILM 15 ohm 1/5W J C06001506P520	2							
R204C/L/R	METAL FILM 15 ohm 1/5W J C06001506P520	3			PCB2	ASSEMBLY P.C.BOARD C-VIDEO	7028040954600	A/K	
					PCB2	ASSEMBLY P.C.BOARD C-VIDEO	7028040954620	D	
					PCB2	ASSEMBLY P.C.BOARD C-VIDEO	7028040954610	RDS	
						CAPACITORS			

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
C801	ELECT GE 85C	10 uF 35V M D040100085100	1		R822	CARBON FILM	2 Kohm 1/5W J C00002028P520	1	
C802	ELECT GE 85C	22 uF 16V M D040220083100	1		R823	CARBON FILM	1 Mohm 1/5W J C00001056P520	1	
C803	ELECT GE 85C	10 uF 35V M D040100085100	1		R824	METAL FILM	470 ohm 1/5W J C06004716P520	1	
C804	ELECT GE 85C	22 uF 16V M D040220083100	1		R825	METAL FILM	3.3 Kohm 1/5W J C06003326P520	1	
C805	ELECT GE 85C	10 uF 35V M D040100085100	1		R826	CARBON FILM	47 Kohm 1/5W J C00004736P520	1	
C806	ELECT GE 85C	22 uF 16V M D040220083100	1		R827	METAL FILM	68 ohm 1/5W J C06006806P520	1	
C807	ELECT GE 85C	10 uF 35V M D040100085100	1		R828	CARBON FILM	8.2 Kohm 1/5W J C00008226P520	1	
C808	ELECT GE 85C	22 uF 16V M D040220083100	1		R829	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
C809	FILM POLYESTER	0.1 uF 63V K D020104078060	1		R830	CARBON FILM	68 Kohm 1/5W J C00006836P520	1	
C810	FILM POLYESTER	0.1 uF 63V K D020104078060	1		R831	METAL FILM	100 ohm 1/5W J C06001016P520	1	
C811	ELECT GE 85C	220 uF 10V M D040221082100	1		R832	METAL FILM	1 Kohm 1/5W J C06001026P520	1	
C812	CERAMIC HIK DISC	0.01 uF 50V Z D004103097060	1		R833	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
C814	CERAMIC HIK DISC	0.01 uF 50V Z D004103097060	1		R834	METAL FILM	2.2 Kohm 1/5W J C06002226P520	1	
C815	ELECT GE 85C	220 uF 10V M D040221082100	1		R835	CARBON FILM	100 Kohm 1/5W J C00001046P520	1	
C816	CERAMIC HIK DISC	0.01 uF 50V Z D004103097060	1		R836	METAL FILM	1 Kohm 1/5W J C06001026P520	1	
C817	ELECT GE 85C	220 uF 10V M D040221082100	1		R837	METAL FILM	1 Kohm 1/5W J C06001026P520	1	
C818	CERAMIC HIK DISC	0.01 uF 50V Z D004103097060	1		R838	METAL FILM	1 Kohm 1/5W J C06001026P520	1	
C819	ELECT GE 85C	220 uF 10V M D040221082100	1		R839	METAL FILM	1 Kohm 1/5W J C06001026P520	1	
C820	ELECT GE 85C	1 uF 50V M D040010087100	1		R840	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
C821	CERAMIC HIK AXIAL	0.001 uF 50V K D005102077530	1		R841	CARBON FILM	6.8 Kohm 1/5W J C00006826P520	1	
C822	ELECT GE 85C	1 uF 50V M D040010087100	1						
C823	CERAMIC HIK AXIAL	2200 pF 16V X D005222773530	1			CRYSTALS			
C824	ELECT GE 85C	100 uF 10V M D040101082100	1		X801	14.31818MHZ, CRYSTAL	E80014R318020	1	A/K
C825	CERAMIC T.C AXIAL	100 pF 50V J D001101077530	1		X801	17.734475MHZ, CRYSTAL	E80017R733420	1	D/RDS
C826	CERAMIC HIK AXIAL	10000 pF 16V Y D005103773530	1						
C827	ELECT GE 85C	100 uF 10V M D040101082100	1		PCB3	ASSEMBLY P.C.BOARD DTS/AC3	7028040955000		
C828	CERAMIC T.C DISC	18 pF 50V J D000180167070	1			CAPACITORS			
C829	CERAMIC T.C DISC	18 pF 50V J D000180167070	1		C1	CERAMIC CHIP HIK	0.01 uF 50V Z D011103177210	1	
C830	ELECT GE 85C	100 uF 10V M D040101082100	1		C10	ELECT GE 85C	1000 uF 6.3V M D040102081060	1	
C831	CERAMIC HIK AXIAL	22 pF 50V D005220067530	1		C100-C106	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	7	
C832	CERAMIC T.C AXIAL	33P pF 50V J D001330067530	1		C107	ELECT GE 85C	100 uF 6.3V M D040101081120	1	
C833	ELECT GE 85C	1 uF 50V M D040010087100	1		C108	CERAMIC CHIP HIK	0.0068 uF 50V B D011682177210	1	
C834	ELECT GE 85C	4.7 uF 50V M D0404R7087100	1		C109	CERAMIC CHIP HIK	0.0022 uF 50V B D011222177210	1	
C835	ELECT GE 85C	47 uF 16V M D040470083100	1		C11	CERAMIC CHIP T.C	100 pF 50V J D010101167200	1	
C836	ELECT GE 85C	10 uF 50V M D040100087100	1		C110	CERAMIC CHIP HIK	0.0022 uF 50V B D011222177210	1	
C837	ELECT GE 85C	100 uF 10V M D040101082100	1		C111	CERAMIC CHIP HIK	0.0047 uF 50V B D011472177210	1	
C838	CERAMIC HIK AXIAL	10000 pF 16V Y D005103773530	1		C112	ELECT GE 85C	10 uF 50V M D040100087050	1	
C839-C841	CERAMIC T.C AXIAL	100 pF 50V J D001101077530	3		C113	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
C842	ELECT GE 85C	0.33 uF 50V M D040R33087100	1		C114	ELECT GE 85C	100 uF 16V M D040101083180	1	
C843-C846	CERAMIC HIK AXIAL	0.1 uF 50V F D005104097530	4		C115	ELECT GE 85C	100 uF 16V M D040101083180	1	
C847	CERAMIC CHIP	2.2 pF 50V F D0012R2077520	1		C116	ELECT GE 85C	47 uF 16V M D040470083020	1	
					C117	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
	CONNECTOR				C118	ELECT GE 85C	47 uF 16V M D040470083020	1	
CP452	CN.WAFER 2.0MM, 14P	L101352371410	1		C119	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
CP456	CN.WAFER 2.0MM, 3P	L101031000010	1		C12	ELECT GE 85C	3.3 uF 50V Z D0403R3087120	1	
					C12	ELECT GE 85C	3.3 uF 50V M D0403R3087120	1	
	DIODES				C120	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
D801-D811	1N4148, SWITCHING	K000414801520	11		C121	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
					C122	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
	INTEGRATED CIRCUITS				C123	ELECT GE 85G	10 uF 16V M D040100083020	1	
IC801	LC7824(M), VIDEO SW	J080782400000	1		C124-C126	CERAMIC CHIP HIK	0.0047 uF 50V B D011472177210	3	
IC802	LC7824(R), VIDEO SW	J080782400000	1		C127	ELECT GE 85C	10 uF 16V M D040100083020	1	
IC803	MC14577(R), MONITOR	J170145770000	1		C128/C129	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	2	
IC804	MC14577(M), MONITOR	J170145770000	1		C13	ELECT GE 85C	1 uF 50V M D040010087120	1	
IC805	BA7046, VIDEO SYNC	J080704600000	1		C130/C131	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	3	
IC806	M35010-001SP, ON SCREEN DISP	J080350100010	1		C132-C134	ELECT GE 85C	100 uF 6.3V M D040101081120	2	
					C135	CERAMIC CHIP T.C	470 pF 1/10W J D010471167200	1	
	COIL				C136	ELECT GE 85C	100 uF 6.3V M D040101081120	1	
L802	INDUCTOR COIL 22UH	D330220001020	1		C137-C139	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	3	
					C14	ELECT GE 85C	10 uF 16V M D040100083020	1	
	TRANSISTORS				C140-C145	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	7	
Q801	KTC2878, NPN	J502287800000	1		C147	ELECT GE 85C	1000 uF 6.3V M D040102081060	1	
Q802	DTA114YS, PNP, PNP	J6000114Y0010	1		C148	CERAMIC CHIP T.C	10 pF D010100167210	1	
Q803	2SA933S, PNP	J5009330S0050	1		C149	CERAMIC CHIP HIK	0.01 uF 50V Z D011103177210	1	
Q804	2SC1740, NPN	J5021740Y0050	1		C15	CERAMIC CHIP T.C	100 pF 50V J D010101167200	1	
Q805	DTC114YS, NPN	J6020114Y0050	1		C150-C152	CERAMIC CHIP HIK	0.0047 uF 50V B D011472177210	3	
					C153	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
	RESISTORS				C16	ELECT GE 85C	3.3 uF 50V M D0403R3087120	1	
R801	METAL FILM	82 ohm 1/5W J C06008206P520	1		C17	CERAMIC CHIP T.C	100 pF 50V J D010101167200	1	
R802	METAL FILM	10 ohm 1/5W J C06001006P520	1		C18/C19	CERAMIC CHIP T.C	22 pF 50V J D010220167200	2	
R803	METAL FILM	82 ohm 1/5W J C06008206P520	1		C2	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
R804	METAL FILM	10 ohm 1/5W J C06001006P520	1		C20	ELECT GE 85C	1 uF 50V M D040010087120	1	
R805	METAL FILM	82 ohm 1/5W J C06008206P520	1		C21-C24	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	4	
R806	METAL FILM	10 ohm 1/5W J C06001006P520	1		C25	ELECT GE 85C	1 uF 50V M D040010087120	1	
R807	METAL FILM	75 ohm 1/5W J C06007506P520	1		C26	CERAMIC CHIP HIK	0.0015 uF 50V Z D011152177210	1	
R808	METAL FILM	82 ohm 1/5W J C06008206P520	1		C27	CERAMIC CHIP HIK	0.015 uF 50V Z D011152177210	1	
R809	METAL FILM	10 ohm 1/5W J C06001006P520	1		C28	ELECT GE 85C	47 uF 16V M D040470083120	1	
R810	METAL FILM	75 ohm 1/5W J C06007506P520	1		C29	ELECT BP 85C	1 uF 50V M D040010087120	1	
R811/R812	CARBON FILM	100 Kohm 1/5W J C00001046P520	2		C3	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
R813	CARBON FILM	33 Kohm 1/5W J C00003336P520	1		C30	ELECT GE 85C	1 uF 50V M D040010087120	1	
R814	CARBON FILM	470 Kohm 1/5W J C00004746P520	1		C31	CERAMIC CHIP HIK	0.0068 uF 50V B D011682177210	1	
R815	CARBON FILM	150 Kohm 1/5W J C00001546P520	1		C32	CERAMIC CHIP HIK	0.0022 uF 50V B D011222177210	1	
R816	CARBON FILM	1 Mohm 1/5W J C00001056P520	1		C33	CERAMIC CHIP HIK	0.0022 uF 50V B D011222177210	1	
R817	CARBON FILM	470 Kohm 1/5W J C00004746P520	1		C34	CERAMIC CHIP HIK	0.0047 uF 50V B D011472177210	1	
R818	METAL FILM	330 ohm 1/5W J C06003316P520	1		C35	ELECT GE 85C	10 uF 16V M D040100083020	1	
R820	CARBON FILM	100 Kohm 1/5W J C00001046P520	1		C36	CERAMIC CHIP HIK	0.1 uF 50V Z D005104597530	1	
R821	METAL FILM	75 ohm 1/5W J C06007506P520	1		C37	ELECT GE 85C	10 uF 50V M D040100083020	1	

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.		
C38	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	IC20	NM27C010, EPROM	J089384261330	1	
C39	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	IC3	HY534256A-J-70, DRAM	J001534256000	1	
C4	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	IC4	CS4226, AD/DA CONV	J080422600010	1	
C40/C41	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	2	IC5	NJM 2068DD, OP	J121206800000	1	
C42	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	IC6	PC74HC157, QUAD 2-IN MAX	J040741570020	1	
C43	ELECT GE 85C	10 uF	16V	M	D040100083020	1	IC7	MC14577BP, MONITOR	J170145770000	1	
C44	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	IC8/IC9	NJM 2068DD, OP	J121206800000	2	
C45	ELECT GE 85C	10 uF	16V	M	D040100083020	1					
C46	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1		TRANSISTORS			
C47	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	Q1	DTC114YS, NPN	J6020114Y0050	1	
C48	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	Q10/Q11	2SA933, PNP	J5000933S0050	2	
C49	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	Q12/Q13	2SC1740, NPN	J5021740S0010	2	
C5	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	Q2/Q3	DTC114YS, NPN	J6020114Y0050	2	
C50	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	Q8/Q9	2SC1740, NPN	J5021740S0010	2	
C51	ELECT GE 85C	10 uF	16V	M	D040100083020	1		RESISTORS			
C52	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R1	CHIP THICK	20 Kohm 1/10W J	C200020360200	1
C53	ELECT GE 85C	10 uF	16V	M	D040100083020	1	R10	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C54	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	R100	CHIP THICK	27 Kohm 1/10W J	C200027360200	1
C55	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	R101-R103	CHIP THICK	47 Kohm 1/10W J	C200047360200	3
C56	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	R104	CHIP THICK	47 ohm 1/10W J	C200047060200	1
C57	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	1	R105-R108	CHIP THICK	10 Kohm 1/10W J	C200010360200	4
C58	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	R109	CHIP THICK	100 ohm 1/10W J	C200010160200	1
C59	ELECT GE 85C	10 uF	16V	M	D040100083020	1	R11	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C6	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R110	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
C60	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R111	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C61	ELECT GE 85C	10 uF	16V	M	D040100083020	1	R112	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
C62	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	R113-R115	CHIP THICK	22 ohm 1/10W J	C200022060200	3
C63	CERAMIC CHIP HIK	0.0068 uF	50V	B	D011682177210	1	R116-R119	CHIP THICK	33 ohm 1/10W J	C200033060200	4
C64/C65	CERAMIC CHIP HIK	0.0022 uF	50V	B	D011222177210	2	R12	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C66	CERAMIC CHIP HIK	0.0047 uF	50V	B	D011472177210	1	R120-R122	CHIP THICK	33 ohm 1/10W J	C200033060200	3
C67	ELECT GE 85C	10 uF	16V	M	D040100083020	1	R123	CHIP THICK	47 Kohm 1/10W J	C200047360200	1
C68	CERAMIC CHIP HIK	0.022 uF	50V	B	D011223177210	1	R124	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C69	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R125-R129	CHIP THICK	47 Kohm 1/10W J	C200047360200	5
C7	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R13	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
C70	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R130-R132	CHIP THICK	10 Kohm 1/10W J	C200010360200	3
C71	CERAMIC CHIP T.C	75 pF	50V	J	D010750167210	1	R133	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
C72	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R134	CHIP THICK	82 ohm 1/10W J	C200082060200	1
C73	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	R135/R136	CHIP THICK	220 ohm 1/10W J	C200022160200	2
C74	ELECT GE 85C	47 uF	16V	M	D040470083120	1	R137	CHIP THICK	4.7 Kohm 1/10W J	C200047260200	1
C75/C76	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	2	R138	CHIP THICK	18 Kohm 1/10W J	C200018360200	1
C77	ELECT GE 85C	47 uF	16V	M	D040470083120	1	R139	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
C78/C79	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	2	R14	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C8	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R140	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
C80	CERAMIC CHIP HIK	0.001 uF	50V	M	D011102177210	1	R141	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
C81	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R142	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
C82	ELECT GE 85C	10 uF	16V	M	D040100083020	1	R144	CHIP THICK	470 ohm 1/10W J	C200047160200	1
C83	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R145	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
C84	ELECT GE 85C	47 uF	16V	M	D040470083120	1	R146	CHIP THICK	220 ohm 1/10W J	C200022160200	1
C85	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R147	CHIP THICK	22 ohm 1/10W J	C200022060200	1
C86	ELECT BP 85C	47 uF	10V	M	D042470082110	1	R148	NETWORK , 22K (9P)	C180223091630	1	
C87	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R149	CHIP THICK	22 ohm 1/10W J	C200022060200	1
C88	ELECT GE 85C	47 uF	16V	M	D040470083120	1	R15	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C89	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R150-R152	CHIP THICK	22 ohm 1/10W J	C200022060200	3
C9	ELECT GE 85C	1000 uF	6.3V	M	D040102081060	1	R153-R155	CHIP THICK	33 ohm 1/10W J	C200033060200	1
C90	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	R156-R158	NETWORK , 22K (9P)	C180223091630	3	
C91	ELECT GE 85C	47 uF	16V	M	D040470083120	1	R159	CHIP THICK	47 Kohm 1/10W J	C200047360200	1
C92	CERAMIC CHIP HIK	0.01 uF	50V	Z	D011103177210	1	R16	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
C93	CERAMIC CHIP T.C	2 pF	50V	J	D01020117210	1	R150/R161	CHIP THICK	100 Kohm 1/10W J	C200010460200	2
C94	CERAMIC CHIP T.C	18 pF	50V	J	D010180167200	1	R162	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
C95	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R163	CHIP THICK	470 ohm 1/10W J	C200047160200	1
C96	CERAMIC CHIP T.C	100 pF	50V	J	D010101167200	1	R164	CHIP THICK	22 Kohm 1/10W J	C200022360200	1
C97/C98	CERAMIC CHIP HIK	0.1 uF	50V	Z	D005104597530	1	R165	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
C99	ELECT GE 85C	47 uF	16V	M	D040470083120	1	R166	CHIP THICK	1 Kohm 1/10W J	C200010260200	1
	CRYSTALS						R17	CHIP THICK	470 ohm 1/10W J	C200047160200	1
X1	X-TAL, 24.576MHZ	E800245760810	1				R18	CHIP THICK	43 Kohm 1/10W J	C200043360200	1
X2	RESONATOR, CST4.19M	E830419000060	1				R19	CHIP THICK	470 ohm 1/10W J	C200047160200	1
X3	X-TAL, 18.432MHZ	E800184320810	1				R2	CHIP THICK	10 Kohm 1/10W J	C200010360200	1
X4	CRTSTAL, 1MHz	E800100000700	1				R20	CHIP THICK	1.5 Kohm 1/10W J	C200015260200	1
	COILS						R21	CHIP THICK	2.7 Kohm 1/10W J	C200027260200	1
L1/L2	COIL, FILTER INDUCTOR 10uH	D330100700520	2				R22	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
L3	COIL, INDUCTOR 68uH	D330680001020	1				R23	CHIP THICK	820 ohm 1/10W J	C200082160200	1
L4/L5/L6/L7	BEAD COIL, BK2125HS121-T	7611010000000	4				R24	CHIP THICK	12 Kohm 1/10W J	C200012360200	1
	INTEGRATED CIRCUITS						R25	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
IC1	XCF56009F, AC-3 DECODER	J080560098110	1				R26	CHIP THICK	3 Kohm 1/10W J	C200030260200	1
IC10	NJM 2068DD, OP	J121206800000	1				R27/R28	CHIP THICK	1.5 Kohm 1/10W J	C200015260200	2
IC11	PM4007A, AC-3 DEMODULATOR	J080400700010	1				R29	CHIP THICK	2.7 Kohm 1/10W J	C200027260200	1
IC12	KM68257CJ, SRAM	J001682510010	1				R3	CHIP THICK	3 Kohm 1/10W J	C200030260200	1
IC13	NJM 2068DD, OP	J121206800000	1				R30	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
IC14	UPD78042FGF-065-3B9/QFP80P, CPU	J020780420650	1				R31	CHIP THICK	820 ohm 1/10W J	C200082160200	1
IC15	MC74HC76N DIP16	J040747600040	1				R32	CHIP THICK	12 Kohm 1/10W J	C200012360200	1
IC16/IC17	MC74HCU04AD, INVERTER	J040740400200	2				R33	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
IC18	DSP I56009FJ81, DTS DECODER	J080560098120	1				R34	CHIP THICK	3 Kohm 1/10W J	C200030260200	1
IC19	KM62256, AD/DA CONV	J080422600010	1				R35/R36	CHIP THICK	1.5 Kohm 1/10W J	C200015260200	1
IC2	HY534256A-J-70, DRAM	J001534256000	1				R37	CHIP THICK	2.7 Kohm 1/10W J	C200027260200	1
							R38	CHIP THICK	100 Kohm 1/10W J	C200010460200	1
							R39	CHIP THICK	820 ohm 1/10W J	C200082160200	1

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
R4	CHIP THICK	20 Kohm 1/10W J C200020360200	1	
R40	CHIP THICK	12 Kohm 1/10W J C200012360200	1	
R41	CHIP THICK	100 Kohm 1/10W J C200010460200	1	
R42	CHIP THICK	3 Kohm 1/10W J C200030260200	1	
R43/R44	CHIP THICK	1.5 Kohm 1/10W J C200015260200	2	
R45	CHIP THICK	2.7 Kohm 1/10W J C200027260200	1	
R46	CHIP THICK	100 Kohm 1/10W J C200010460200	1	
R47	CHIP THICK	820 ohm 1/10W J C200082160200	1	
R48	CHIP THICK	12 Kohm 1/10W J C200012360200	1	
R49	CHIP THICK	100 Kohm 1/10W J C200010460200	1	
R5	CHIP THICK	10 Kohm 1/10W J C200010360200	1	
R50	CHIP THICK	3 Kohm 1/10W J C200030260200	1	
R51/R52	CHIP THICK	1.5 Kohm 1/10W J C200015260200	2	
R53	CHIP THICK	2.7 Kohm 1/10W J C200027260200	1	
R54	CHIP THICK	100 Kohm 1/10W J C200010460200	1	
R55	CHIP THICK	820 ohm 1/10W J C200082160200	1	
R56	CHIP THICK	12 Kohm 1/10W J C200012360200	1	
R57	CHIP THICK	100 Kohm 1/10W J C200010460200	1	
R58	CHIP THICK	3 Kohm 1/10W J C200030260200	1	
R59	CHIP THICK	1.5 Kohm 1/10W J C200015260200	1	
R6	CHIP THICK	1.5 Kohm 1/10W J C200015260200	1	
R60	CHIP THICK	1.5 Kohm 1/10W J C200015260200	1	
R61	CHIP THICK	2.7 Kohm 1/10W J C200027260200	1	
R62	CHIP THICK	100 Kohm 1/10W J C200010460200	1	
R63	CHIP THICK	820 ohm 1/10W J C200082160200	1	
R64	CHIP THICK	12 Kohm 1/10W J C200012360200	1	
R65-R67	CHIP THICK	1 ohm 1/10W J C200001060200	3	
R68	CHIP THICK	560 ohm 1/10W J C200056160200	1	
R69	CHIP THICK	91 ohm 1/10W J C200091060200	1	
R7	CHIP THICK	2.2 ohm 1/10W J C200022060200	1	
R70/R71	CHIP THICK	1 Kohm 1/10W J C200010260200	2	
R72	CHIP THICK	4.7 Kohm 1/10W J C200047260200	1	
R73	CHIP THICK	150 ohm 1/10W J C200015160200	1	
R74	CHIP THICK	2.2 Kohm 1/10W J C200022260200	1	
R75-R79	CHIP THICK	1 Kohm 1/10W J C200010260200	5	
R8	CHIP THICK	1 Mohm 1/10W J C200010560200	1	
R80	CHIP THICK	1 Kohm 1/10W J C200010260200	1	
R81	CHIP THICK	10 Kohm 1/10W J C200010360200	1	
R82	CHIP THICK	4.7 Kohm 1/10W J C200047260200	1	
R83	CHIP THICK	1 Kohm 1/10W J C200010260200	1	
R84	CHIP THICK	3.3 Kohm 1/10W J C200033260200	1	
R85	CHIP THICK	1 Kohm 1/10W J C200010260200	1	
R86	CHIP THICK	10 Kohm 1/10W J C200010360200	1	
R87	CHIP THICK	1.8 Kohm 1/10W J C200018260200	1	
R88	CHIP THICK	10 Kohm 1/10W J C200010360200	1	
R89	CHIP THICK	4.7 Kohm 1/10W J C200047260200	1	
R9	CHIP THICK	10 Kohm 1/10W J C200010360200	1	
R90	CHIP THICK	100 Kohm 1/10W J C200010460200	1	
R91	CHIP THICK	4.7 Kohm 1/10W J C200047260200	1	
R92	CHIP THICK	3.9 Kohm 1/10W J C200039260200	1	
R93	CHIP THICK	8.2 Kohm 1/10W J C200082260200	1	
R94	CHIP THICK	33 Kohm 1/10W J C200033360200	1	
R95	CHIP THICK	10 Kohm 1/10W J C200010360200	1	
R96	CHIP THICK	10 Kohm 1/10W J C200010360200	1	
R97	CHIP THICK	47 Kohm 1/10W J C200047360200	1	
R98	CHIP THICK	120 ohm 1/10W J C200012160200	1	
R99	CHIP THICK	68 Kohm 1/10W J C200068360200	1	
MISCELLANEOUS				
F2	FILTER BPF SPB4930 2.88MHZ	E440000010010	1	
D1	LED SLR-34URCF25	K500032101120	1	
D3	KV1851, VARACTOR	K080185100010	1	
OPT-1	MODULE OPTO RCVR PLR102	E944102000010	1	
PCB4	ASSEMBLY P.C.BOARD FRONT	7028040952900	A	
PCB4	ASSEMBLY P.C.BOARD FRONT	7028040952920	D	
PCB4	ASSEMBLY P.C.BOARD FRONT	7028040952930	K	
PCB4	ASSEMBLY P.C.BOARD FRONT	7028040952910	RDS	
CAPACITORS				
C301-C311	CERAMIC T.C AXIAL	100 pF 50V J D001101077530	11	
C312/C313	FILM POLYESTER	0.047 uF 100V J D02047306C060	2	
C314	ELECT GE 85C	47 uF 50V M D040470087100	1	
C315	CERAMIC T.C AXIAL	100 pF 50V J D001101077530	1	
C316	ELECT GE 85C	0.1 uF 50V M D040R10087100	1	
C317	ELECT GE 85C	10 uF 35V M D040100085100	1	
C318	ELECT GE 85C	47 uF 25V M D040470084100	1	
C319	DOUBLE LAYER	0.047 pF 5.5V D090473700200	1	
C320	ELECT GE 85C	10 uF 50V M D040100087100	1	
C321/C322	CERAMIC HIK AXIAL	820 pF 50V K D005821287520	2	
C323	ELECT GE 85C	47 uF 16V M D040470083100	1	
C324	FILM POLYESTER	0.1 uF 63V K D020104078060	1	
C325/C326	CERAMIC HIK DISC	1000 pF 50V Z D004102097060	2	
C327	CERAMIC HIK AXIAL	0.1 uF 50V F D005104097530	1	
C651L	CERAMIC T.C AXIAL	100 pF 50V J D001101077530	1	
C651R	CERAMIC T.C AXIAL	100 pF 50V J D001101077530	1	

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
CONNECTORS				
CN302	CTG 0740 S,T 1007(SLT)*#26 2.0	L022074031320	1	
CN303	CTM 0314 51048(MOLD)*2 2877*#26 2.0	L021031432320	1	
CN304	CTM 51048(MOLD)*2 2877*#26 2.0	L021021032320	1	
CN306	CTG 0214 GIL-S,51088(MOLD)	L022021433320	1	
CP301	CF 12035SL5 35P ANG 1SIDE	L131120350010	1	
CP305	CNT GIL02PS2LSEF	L101220020010	1	
CP306	CN.WAFER 2.0MM, 2P	L101220020000	1	
CP454	CNT GIL-12P-S2L2-EF	L101220120010	1	
DIODES				
D301-D311	1N4148, SWITCHING	K000414801520	11	
D318-D320	1N4148, SWITCHING	K000414801520	3	
D322	1N4148, SWITCHING	K000414801520	1	
D325	1N4148, SWITCHING	K000414801520	1	
LED'S				
D312-D317	SLR-34URCF25, LED ROUND	K500032101120	6	
D321	SLR-34URCF25, LED ROUND	K500032101120	1	
MISCELLEOUS				
ENC(FUC)	VR. ROTARY/EC16B24D0002-ZZZ	C450042030010	1	
FL301	DISPLAY, FLT/FIP8DM7R GRN/RED	K530001890010	1	
HOLDER	HOLDER FL	4320040841010	1	
INTEGRATED CIRCUITS				
IC301	CXP82860-127Q, CPU	J020828601270	1	
IC302	RMC MODULE CRV1G342-185BD	E940342210000	1	
TRANSISTORS				
Q301-Q306	DTC114YS, NPN	J6020114Y00050	6	
Q307-Q312	2SC3199Y (BKTC3199Y), NPN	J5023199Y00050	6	
Q313	DTC114YS, NPN	J6020114Y00050	1	
Q314	2SC3199Y (BKTC3199Y), NPN	J5023199Y00050	1	
Q315	MPAS06, NPN	J5020600Y00050	1	
RESISTORS				
R301-R304	CARBON FILM	47 Kohm 1/5W J C00004736P520	4	
R305-R315	METAL FILM	1 Kohm 1/5W J C06001026P520	11	
R316/R317	METAL FILM	3.3 ohm 1/5W J C0603R306P520	2	
R318	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	A/D/K
R319	METAL FILM	4.7 Kohm 1/5W J C06004726P520	1	
R320/R321	CARBON FILM	22 Kohm 1/5W J C00002236P520	2	
R322	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
R323	CARBON FILM	22 Kohm 1/5W J C00002236P520	1	
R324-R327	CARBON FILM	10 Kohm 1/5W J C00001036P520	4	
R328	CARBON FILM	1 Mohm 1/5W J C00001056P520	1	
R329	CARBON FILM	100 Kohm 1/5W J C00001046P520	1	
R330	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
R331	CARBON FILM	5.6 Kohm 1/5W J C00005626P520	1	
R332	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
R333	CARBON FILM	1 Mohm 1/5W J C00001056P520	1	
R334-R336	CARBON FILM	100 Kohm 1/5W J C00001046P520	3	
R337/R338	CARBON FILM	10 Kohm 1/5W J C00001036P520	2	
R339-R341	CARBON FILM	5.6 Kohm 1/5W J C00005626P520	3	
R342-R352	CARBON FILM	100 Kohm 1/5W J C00001046P520	11	
R353-R358	METAL FILM	470 ohm 1/5W J C06004716P520	6	
R359	METAL FILM	3.9 Kohm 1/5W J C06003926P520	1	
R360/R361	CARBON FILM	100 Kohm 1/5W J C00001046P520	2	
R362	METAL FILM	1 Kohm 1/5W J C06001026P520	1	
R363	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
R364	CARBON FILM	47 Kohm 1/5W J C00004736P520	1	
R365	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
R366/R367	CARBON FILM	5.6 Kohm 1/5W J C00005626P520	2	
R368	CARBON FILM	22 Kohm 1/5W J C00002236P520	1	
R369	CARBON FILM	220 Kohm 1/5W J C00002246P520	1	
R370-R372	CARBON FILM	22 Kohm 1/5W J C00002236P520	3	
R373/R374	CARBON FILM	100 Kohm 1/5W J C00001046P520	2	
R375/R376	METAL FILM	100 ohm 1/5W J C06001016P520	2	
R377-R380	METAL FILM	2.2 Kohm 1/5W J C06002226P520	4	
R381	CARBON FILM	100 Kohm 1/5W J C00001046P520	1	RDS
R382-R384	CARBON FILM	68 Kohm 1/5W J C00006836P520	3	
R385	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
R386	METAL FILM	4.7 Kohm 1/5W J C06004726P520	1	
R387	METAL FILM	180 ohm 1/5W J C06001816P520	1	
R388	CARBON FILM	10 Kohm 1/5W J C00001036P520	1	
R389	CARBON FILM	8.2 Kohm 1/5W J C00008226P520	1	
R390	CARBON FILM	100 Kohm 1/5W J C00001046P520	1	
R392	CARBON FILM	100 Kohm 1/5W J C00001046P520	1	
R393	CARBON FILM	68 Kohm 1/5W J C00006836P520	1	
R394	CARBON FILM	100 Kohm 1/5W J C00001046P520	1	
R395	CARBON FILM	1 Mohm 1/5W J C00001056P520	1	
R396-R399	CARBON FILM	10 Kohm 1/5W J C00001036P520	4	
R701/LR	METAL FILM	10 ohm 2W J C060010066520	2	
R741-R761	CARBON FILM	100 Kohm 1/5W J C00001046P520	21	
TACT SW'S				

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
SW301-SW340	TACT SW/SKHV10920A	G180000270010	40	
X301	RESONATOR RESONATOR CST10M	E830100000050	1	
PCB4-1	ASSEMBLY P.C.BOARD SPKR CAPACITORS			
C701C/L/R	FILM POLYESTER 0.047 uF 100V J	D02047306C060	3	
C701SL/SR	FILM POLYESTER 0.047 uF 100V J	D02047306C060	2	
C702CD/LD/RD	CERAMIC HIK DISC 0.0047 uF 50V Z	D004472097060	3	
C702SLD/SRD	CERAMIC HIK DISC 0.0047 uF 50V Z	D004472097060	2	
C703CD/LD/RD	CERAMIC HIK DISC 0.0047 uF 50V Z	D004472097060	3	
C703SLD/SRD	CERAMIC HIK DISC 0.0047 uF 50V Z	D004472097060	2	
	CONNECTORS			
CN902	CTM 0524 35156.JE210 1007#18 3 96	L001241051800	1	
CN903	CN WIRE CTM0330 51067.JE1007#18 3.9	L021033044660	1	
CP901	PLUG JE202A2T3 ANG3P	L104202000310	1	
	RESISTORS			
R700L/R	CARBON FILM 22 Kohm 1/5W J	C00002236P520	2	
R701C	METAL FILM 10 ohm 2W J	C060010066520	1	
R701SL/SR	METAL FILM 10 ohm 2W J	C060010066520	2	
PCB4-2	ASSEMBLY P.C.BOARD PUSH SW			
CN111	CTM 0250 35191.JE210 1617#22 7.92	L021025041770	1	D/RDS
SW771	PUSH SW. ESB-8279V	G000041610000	1	D/RDS
PCB4-3	ASSEMBLY P.C.BOARD TACT SW			
CN304	CTM 51048(MOLD)*2 2877#26 2.0	L021021032320	1	A/K
SW761	TACT SW/SKHV10920A	G180000270010	1	A/K
PCB4-4	ASSEMBLY P.C.BOARD H/P & SPKR SEL CAPACITORS			
C731L/R	CERAMIC HIK AXIAL 560 pF 50V K	D005561277520	2	
	CONNECTORS			
CN701	CTJ0540 JE201(5)	L001401051810	1	
CP306	CN WAFER 2 0MM 2P	L101220020000	1	
	RESISTORS			
R731L/R	CARBON FILM 15 Kohm 1/5W J	C00001536P520	2	
R732L/R	METAL FILM 470 ohm 2W J	C060047166520	2	
	MISCELLANEOUS			
JACK731	JACK D6 5/HTJ064-11D(G)	G402040161330	1	
SW731	SPKR ON/OFF SPLL 19X1M071 SU690	G000040960000	1	
JACK	CN WIRE/HEADPHONE. 5P	L000501050000	1	
PCB4-5	ASSEMBLY P.C.BOARD ENC			
C751/C752	CERAMIC HIK AXIAL 820 pF 50V K	D005821287520	1	
CN303	CTM 0314 51048(MOLD)*2 2877#26 2.0	L021031432320	1	
ENC (VOL)	S/W ROTARY ENCODER EVQ VER	C490041060010	1	
PCB4-6	ASSEMBLY P.C.BOARD CNT			
CP454	CN WAFER 2 0MM. 12P	L101220120010	1	
CN455	CN HOUSING 2 0MM. 7P	L121071000010	1	
CN456	CN HOUSING 2.0MM 3P	L121031000010	1	
CN457	CN HOUSING 2 0MM 7P	L121071000010	1	
PCB4-7	ASSEMBLY P.C.BOARD TONE CAPACITORS			
C601L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C602L/R	CERAMIC T.C AXIAL 47 pF 50V J	D001470067530	2	
C603L/R	ELECT GE 85C 10 uF 16V M	D040100083120	2	
C604L/R	ELECT GE 85C 10 uF 16V M	D040100083120	2	
C605L/R	FILM POLYESTER 0.082 uF 63V J	D020823068050	2	
C606L/R	FILM POLYESTER 0.015 uF 63V J	D020153068050	2	
C607L/R	CERAMIC HIK DISC 0.022 uF 50V Z	D004223097060	2	
C608L/R	FILM POLYESTER 0.0033 uF 63V J	D020332068050	2	
C609L/R	FILM POLYESTER 0.33 uF 63V J	D020334068050	2	
C610L/R	FILM POLYESTER 0.0082 uF 63V J	D020822068050	2	
C611L/R	ELECT GE 85C 10 uF 50V M	D040100087100	2	
C613/C614	ELECT GE 85C 47 uF 25V M	D040470084100	2	
C615	ELECT GE 85C 3.3 uF 50V M	D0403R3087120	1	
C652L/R	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C654	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	1	
C656	ELECT GE 85C 33 uF 16V M	D040330083100	1	
C658	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	1	
	CONNECTORS			
CN305	CTG 0214 GIL-S 51088(MOLD) 2877#26 2.0	L022021433320	1	
CN454	CTG 1245 GILS GILT 1007#26 2.0	L022124534320	1	
CN602	CTG 0940 GILS GILT 2547#26 2.0	L022094071310	1	
	DIODES			
D652/D653	1N4148 SWITCHING	K000414801520	2	

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
	TRANSISTORS			
Q601	DTC114YS. NPN	J6020114Y0050	1	
Q602	DTA114YS. PNP	J6000114Y0010	1	
Q603L	2SK117Y. FET	J5441170Y0050	1	
Q603R	2SK117Y. FET	J5441170Y0050	1	
Q651	DTC114YS. NPN	J6020114Y0050	1	
	RESISTORS			
R601L/R	CARBON FILM 100 Kohm 1/5W J	C00001046P520	2	
R602L/R	CARBON FILM 1 Mohm 1/5W J	C00001056P520	2	
R603L/R	CARBON FILM 47 Kohm 1/5W J	C00004736P520	2	
R604L/R	METAL FILM 2.7 Kohm 1/5W J	C06002726P520	2	
R605L/R	CARBON FILM 10 Mohm 1/5W J	C00001066P520	2	
R606L/R	METAL FILM 4.7 Kohm 1/5W J	C06004726P520	2	
R607L/R	CARBON FILM 27 Kohm 1/5W J	C00002736P520	2	
R608L/R	METAL FILM 3.3 Kohm 1/5W J	C06003326P520	2	
R609L/R	CARBON FILM 22 Kohm 1/5W J	C00002236P520	2	
R610L/R	METAL FILM 560 ohm 1/5W J	C06005616P520	2	
R611L/R	METAL FILM 2.2 Kohm 1/5W J	C06002226P520	2	
R612L/R	METAL FILM 1.8 Kohm 1/5W J	C06001826P520	2	
R613L/R	CARBON FILM 100 Kohm 1/5W J	C00001046P520	2	
R614	CARBON FILM 100 Kohm 1/5W J	C00001046P520	1	
R615	CARBON FILM 1 Mohm 1/5W J	C00001056P520	1	
R616/R617	METAL FILM 220 ohm 1/5W J	C06002216P520	2	
R618L/R	CARBON FILM 1 Mohm 1/5W J	C00001056P520	2	
R651	METAL FILM 820 ohm 1/5W J	C06008216P520	1	
R652L/R	METAL FILM 470 ohm 1/5W J	C06004716P520	1	
R653	METAL FILM 75 ohm 1/5W J	C06007506P520	1	
R655C/Y	METAL FILM 82 ohm 1/5W J	C06008206P520	2	
	INTEGRATED CIRCUIT			
IC601	NJM2068M	J121206800020	1	
	VR'S			
VR601/VR602	VR ROTARY/K162Y0G-100KCX2	C455121402300	1	
VR603	VR, ROTARY/K161M0G-100K, BALANCE	G455111402000	1	
	MISCELLANEOUS			
SW651	TACT SW/SKHV10920A	G180000270010	1	
W651	WIRE LUG #24BK200 LF 0.5/0.	L046241020580	1	
JACK601	JACK RCA3P	G606040300000	1	
D651	SLR-34URCF25. LED ROUND	K500032101120	1	
PCB5	ASSEMBLY P.C.BOARD INPUT	7028040954400		
PCB5-1	ASSEMBLY P.C.BOARD AUDIO INPUT CAPACITORS			
C401LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C402LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C403LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C404LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C405LD/RD	CERAMIC T.C AXIAL 15 pF 50V J	D001150067530	2	
C406LD/RD	CERAMIC T.C AXIAL 15 pF 50V J	D001150067530	2	
C407LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C408LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C409LD/RD	CERAMIC T.C AXIAL 15 pF 50V J	D001150067530	2	
C410LD/RD	CERAMIC T.C AXIAL 15 pF 50V J	D001150067530	2	
C411	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C412	ELECT GE 85C 1 uF 50V M	D040010087100	1	
C413L/R	FILM POLYESTER 0.0018 uF 100V J	D02018206C060	2	
C414	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C417	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	1	
C418-C421	ELECT GE 85C 47 uF 25V M	D040470084100	4	
C422L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C423L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C424L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C425L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087400	2	
C426LD/RD	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C427L/R	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	2	
C428L/R	ELECT GE 85C 4.7 uF 50V M	D0404R7087100	2	
C429LD/RD	CERAMIC HIK AXIAL 2200 pF 16V X	D005222773530	2	
C430L/R	ELECT GE 85C 33 uF 25V M	D040330084100	2	
C431L/R	FILM POLYESTER 0.0018 uF 100V J	D02018206C060	2	
C432L/R	FILM POLYESTER 0.0056 uF 100V J	D02056206C060	2	
C433L/R	ELECT GE 85C 1 uF 50V M	D040010087100	2	
C434L/R	FILM POLYESTER 0.0018 uF 100V J	D02018206C060	2	
C435/C436	ELECT GE 85C 47 uF 25V M	D040470084100	2	
C437/C438	CERAMIC HIK AXIAL 0.1 uF 50V F	D005104097530	2	
C465	ELECT GE 85C 47 uF 25V M	D040470084100	1	
C466	CERAMIC T.C AXIAL 100 pF 50V J	D001101077530	1	
	CONNECTORS			
CP401	CN WAFER 2 0MM. 11P	L101352371110	1	
CP402	CN WAFER 2 0MM. 8P	L101352370810	1	
	DIODE			
D401	1N4148 SWITCHING	K000414801520	1	

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
INTEGRATED CIRCUITS					CAPACITORS				
IC401	LC7821, LOGIC	J040782100010	1		C101	CERAMIC AC(SAFETY)	0.0047 uF	400V	D00847208K030 1
IC402-IC404	KIA4559 (KIA75559P), OP	J121455900010	3		C102D	CERAMIC AC(SAFETY)	0.0047 uF	400V	D00847208K030 1
COILS					C103	FILM POLYESTER	0.1 uF	250V M	D02010408H210 1
L401LD/RD	COIL INDUCTOR 47UH	D330470001020	2		C104	CERAMIC AC(SAFETY)	0.0047 uF	400V	D00847208K010 1
RESISTORS					C105-C107	FILM POLYESTER	0.047 uF	100V J	D02047306C060 3
R401L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C108	ELECT GE 85C	1000 uF	25V M	D040102084200 1
R402L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C109	ELECT GE 85C	1 uF	50V M	D040010087100 1
R403L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C110	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R404L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C111	ELECT GE 85C	0.1 uF	50V M	D040010087100 1
R405L/R	METAL FILM	1 Kohm 1/5W J C06001026P520	2		C112	FILM POLYESTER	0.22 uF	63V M	D020224068050 1
R406	METAL FILM	220 ohm 1/5W J C06002216P520	1		C113	ELECT GE 85C	47 uF	50V M	D040470087100 1
R407	CARBON FILM	100 Kohm 1/5W J C00001046P520	1		C114	ELECT GE 85C	10 uF	50V M	D040100087100 1
R408-R412	METAL FILM	220 ohm 1/5W J C06002216P520	5		C115-C119	FILM POLYESTER	0.1 uF	250V K	D02010407H080 5
R413-R415	METAL FILM	1 Kohm 1/5W J C06001026P520	3		C120/C121	ELECT GE 85C	15000 uF	80V M	D040010087100 2
R416L/R	CARBON FILM	100 Kohm 1/5W J C00001046P520	2		C122-C124	FILM POLYESTER	0.047 uF	100V J	D02047306C060 3
R417L/R	CARBON FILM	100 Kohm 1/5W J C00001046P520	2		C125	CERAMIC HIK AXIAL	10000 pF	16V Y	D005103773530 1
R418L/R	CARBON FILM	100 Kohm 1/5W J C00001046P520	2		C126	ELECT GE 85C	1 uF	50V M	D040010087100 1
R419L/R	CARBON FILM	100 Kohm 1/5W J C00001046P520	2		C127/C128	ELECT GE 85C	22000 uF	35V M	D040222085200 2
R420L/R	METAL FILM	1 Kohm 1/5W J C06001026P520	2		C129	ELECT GE 85C	1 uF	50V M	D040010087100 1
R421L/R	CARBON FILM	91 Kohm 1/5W J C00009136P520	2		C130	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R422L/R	CARBON FILM	91 Kohm 1/5W J C00009136P520	2		C131	ELECT GE 85C	1 uF	50V M	D040010087100 1
R423L/R	METAL FILM	820 ohm 1/5W J C06008216P520	2		C132	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R424L/R	CARBON FILM	43 Kohm 1/5W J C00004336P520	2		C133-C135	FILM POLYESTER	0.047 uF	100V J	D02047306C060 3
R425L/R	CARBON FILM	560 Kohm 1/5W J C00005646P520	2		C138/C139	ELECT GE 85C	6800 uF	16V M	D040682083000 2
R426L/R	METAL FILM	560 ohm 1/5W J C06005616P520	2		C140	ELECT GE 85C	1 uF	50V M	D040010087100 1
R427L/R	CARBON FILM	100 Kohm 1/5W J C00001046P520	2		C141	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R428/R429	METAL FILM	220 ohm 1/5W J C06002216P520	2		C142	ELECT GE 85C	1 uF	50V M	D040010087100 1
R430L/R	METAL FILM	1 Kohm 1/5W J C06001026P520	2		C143	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R431L/R	METAL FILM	1 Kohm 1/5W J C06001026P520	2		C144	ELECT GE 85C	1 uF	50V M	D040010087100 1
R432L/R	CARBON FILM	100 Kohm 1/5W J C00001046P520	2		C145	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R433L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C146	ELECT GE 85C	1 uF	50V M	D040010087100 1
R434L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C147	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R435L/R	CARBON FILM	47 Kohm 1/5W J C00004736P520	2		C148	ELECT GE 85C	1 uF	50V M	D040010087100 1
R450L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C149	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R451L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C150	ELECT GE 85C	22 uF	50V M	D040220087100 1
R452L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C151	ELECT GE 85C	470 uF	6.3V M	D040471081100 1
R453L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C152	CERAMIC HIK DISC	0.1 uF	50V Z	D004104097060 1
R454L/R	METAL FILM	470 ohm 1/5W J C06004716P520	2		C153-C155	CERAMIC HIK DISC	100 pF	50V J	D004101067060 3
R461-R463	METAL FILM	1 Kohm 1/5W J C06001026P520	3		CONNECTORS				
R464	METAL FILM	220 ohm 1/5W J C06002216P520	1		CP100	CN.WAFER 2.5MM		L102532911910	1
PCB5-2 ASSEMBLY P.C.BOARD VIDEO INPUT					CP101	CN.WAFER 3.96MM		L104353280300	1
CAPACITORS					CP102	CN.WAFER 2.5MM, 6P		L102526706010	1
C450LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP103	CN.WAFER 2.5MM, 4P		L102526704010	1
C451LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP111	CN.WAFER 7.92MM		L108B2P300010	1
C452LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP141/CP142	CN.WAFER 2.5MM, 2P		L102526702010	2
C453LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP201	CN.WAFER 2.5MM, 8P		L102526708010	1
C454LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP202	CN.WAFER 2.5MM, 7P		L102526707010	1
C455LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP301	CN.FPC 1.25MM		L131120350010	1
C456LD/RD	CERAMIC T.C AXIAL	15 pF 50V J D001150067060	2		CP302	CN.WAFER 2.0MM, 7P		L101220070000	1
C457LD/RD	CERAMIC T.C AXIAL	15 pF 50V J D001150067060	2		CP302	CN.WAFER 3.96MM		L104353280200	1
C458LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP401	CN.WAFER 2.0MM, 11P		L101353361110	1
C459LD/RD	CERAMIC HIK DISC	100 pF 50V J D004101067060	2		CP402	CN.WAFER 2.0MM, 8P		L101353360810	1
C460/C561	ELECT GE 85C	47 uF 25V M D040470084100	2		CP451	CN.WAFER 2.0MM, 13P		L101353361310	1
C462L/R	ELECT GE 85C	10 uF 50V M D040100087100	2		CP452	CN.WAFER 2.0MM, 14P		L101353361410	1
C463	ELECT GE 85C	47 uF 25V M D040470084100	1		CP453	CN.WAFER 2.0MM, 8P		L101353360810	1
C464	ELECT GE 85C	1 uF 50V M D040010087100	1		CP501	CN.WAFER 2.0MM, 19P		L101353361910	1
C470	CERAMIC HIK AXIAL	0.1 uF 50V F D005104097530	1		CP502	CN.WAFER 2.0MM, 15P		L101353361510	1
CONNECTORS					CP151	CN.WAFER 3.96MM		L104353280200	1
CP451	CN.WAFER 2.0MM, 13P	L101352371310	1		CP751D	CN.WAFER 3.96MM		L104353280200	1
CP457	CN.WAFER 2MM, 7P	L101071000010	1		CP801/CP802	CN.WAFER 2.0MM, 13P		L101353361310	2
INTEGRATED CIRCUITS					CP902/CP903	CN.WAFER 3.96MM		L104353130500	2
IC450	LC7821, LOGIC	J040782100010	1		DIODES				
IC451	MC14053BCP, MOT	J040140530000	1		D101-D105	1N4003, RECTIFIER		K040400300520	5
RESISTORS					D106/D107	1N4148, SWITCHING		K000414801520	2
R455-R458	METAL FILM	3.3 Kohm 1/5W J C06003326P520	4		D108/D109	1N4003, RECTIFIER		K040400300520	2
R459	METAL FILM	220 ohm 1/5W J C06002216P520	1		D110	UZ30V, ZENER		K060300034520	1
R460	CARBON FILM	100 Kohm 1/5W J C00001046P520	1		D111	MTZ9.1B, ZENER		K06009R124520	1
DIODE					D112	KBPC-2504W, RECTIFIER BRIDGE		K047250400010	1
D450	1N4148, SWITCHING	K000414801520	1		D113-D120	1N4003, RECTIFIER		K040400300520	8
MISCELLANEOUS					D121-D123	1N4148, SWITCHING		K000414801520	3
DI-LINK	TER.RCA 2PIN	G601200930030	1	A	D124	MTZ4.3B, ZENER		K06004R314520	1
AUX/TV	TER.RCA 4PIN	G60240045003A	1	D	D125	MTZ9.1B, ZENER		K06009R124520	1
WA-WA	1P 100MM 1007#18BK	L000101180010	1	RDS	D126-D130	1N4148, SWITCHING		K000414801520	5
PCB6	ASSEMBLY P.C.BOARD MAIN	7028040952700		A	FUSES				
PCB6	ASSEMBLY P.C.BOARD MAIN	7028040952720		D	F101	FUSE, 250V-8A		G650802251010	1
PCB6	ASSEMBLY P.C.BOARD MAIN	7028040952730		K	F101	FUSE, 250V-5A		G650502251160	1
PCB6	ASSEMBLY P.C.BOARD MAIN	7028040952710		RDS	F101	FUSE, 250V-6A		G650602251150	1
					F102D	FUSE, 250V-T2A		G650202251160	1
					F103	FUSE, 125V-315MA		G650311121160	1
					F103	FUSE, 250V-T315MA		G650311251160	1
					F103	FUSE, 250V-315MA		G650311251150	1
					F104	FUSE, 125V-1.5A		G650152121150	1
					F104	FUSE, 250V-T1.6A		G650162251160	1

REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	
F104	FUSE, 250V-1.5A	G650152251150	1	K	C508L/R	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	2
F105	FUSE, 125V-1.5A	G650152121150	1	A	C509L/R	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
F105	FUSE, 250V-T1 6A	G650162251160	1	D/RDS	C510L/R	ELECT GE 85C	0.47 uF	50V	M D040R47087100	2
F105	FUSE, 250V-1.5A	G650152251150	1	K	C511L/R	CERAMIC HIK AXIAL	22 pF	50V	D005220067530	2
F106	FUSE, 125V-2A	G650202121150	1	A	C512L/R	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	2
F106	FUSE, 250V-T2A	G650202251160	1	D/RDS	C513L/R	CERAMIC HIK AXIAL	0.1 uF	50V	F D005104097530	2
F106	FUSE, 250V-2A	G650202251150	1	K	C514L/R	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	2
F107	FUSE, 125V-2A	G650202121150	1	A	C516	ELECT GE 85C	47 uF	25V	M D040470084100	1
F107	FUSE, 250V-2A	G650202251160	1	D/RDS	C517L/R	ELECT GE 85C	10 uF	50V	M D040100087100	2
F107	FUSE, 250V-2A	G650202251150	1	K	C518LD/RD	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
FUSE CLIPS					C519	ELECT GE 85C	47 uF	25V	M D040470084100	1
					C520	ELECT GE 85C	1 uF	50V	M D040010087100	1
F101-1/F101-2	FUSE CLIP	G645000040010	2		C521-C523	ELECT GE 85C	47 uF	25V	M D040470084100	3
F102-1/F102-2	FUSE CLIP	G645000040010	2		C525	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	1
F103-1/F103-2	FUSE CLIP	G645000040010	2		C526	FILM POLYESTER	0.1 uF	63V	J D020104068050	1
F104-1/F104-2	FUSE CLIP	G645000040010	2		C527	FILM POLYESTER	0.1 uF	63V	J D020104068050	1
F105-1/F105-2	FUSE CLIP	G645000040010	2		C528	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	1
F106-1/F106-2	FUSE CLIP	G645000040010	2		C529/C530	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	2
					C531	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	1
ITERGREATED CIRCUITS					C532	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	1
IC101	KIA7806, REGULATOR	J126780600120	1		C533	CERAMIC HIK AXIAL	0.1 uF	50V	F D005104097530	1
IC102	KIA7815 REGULATOR	J126781500020	1		C534	ELECT GE 85C	0.47 uF	50V	M D040R47087100	1
IC103	KIA7915 REGULATOR	J126791500030	1		C535	CERAMIC HIK AXIAL	22 pF	50V	D005220067530	1
IC104	KIA7806, REGULATOR	J126780600120	1		C536	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	1
IC105	KIA7905, REGULATOR	J126790500070	1		C537	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	1
IC106	MC14094, LOGIC	J040140940000	1		C538/C539	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
IC107	LTV817, OPTO COUPLER	K614817000001	1		C540	ELECT GE 85C	10 uF	50V	M D040100087100	1
IC108	KIA7805 REGULATOR	J126780500020	1		C541D	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	1
IC109	KIA7905, REGULATOR	J126790500070	1		C543LD/RD	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
IC110	KIA7805 REGULATOR	J126780500020	1		C544L/R	FILM POLYESTER	0.1 uF	63V	J D020104068050	2
					C545L/R	FILM POLYESTER	0.1 uF	63V	J D020104068050	2
COILS					C546L/R	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
L901SL/SR	INDUCTOR COIL 0.5UH	D330900001320	2		C547L/R	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	2
					C548L/R	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	2
TRANSISTORS					C549L/R	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	2
Q101	2SC1740, NPN	J5021740Y0050	1		C550L/R	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
Q102	MPSA56, PNP	J5005600Y0050	1		C551L/R	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	2
Q103	KTA1266 PNP	J5001266Y0050	1		C552L/R	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
Q104/Q105	2SC1740, NPN	J5021740Y0050	2		C553L/R	CERAMIC HIK AXIAL	0.1 uF	50V	F D005104097530	2
Q106/Q107	DTA114YS PNP	J6000114Y0010	2		C554L/R	ELECT GE 85C	0.47 uF	50V	M D040R47087100	2
Q108-Q113	DTC323TS NPN	J602323TS0050	6		C555L/R	CERAMIC HIK AXIAL	22 pF	50V	D005220067530	2
Q114	DTA114YS, PNP	J6000114Y0010	1		C556L/R	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	2
					C557L/R	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
RESISTORS					C558L/R	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	2
R100	CARBON FILM	3 3 Mohm 1/2W J C000033564000	1	A	C560L/R	ELECT GE 85C	10 uF	50V	M D040100087100	2
R101	METAL FILM	120 ohm 1/5W J C06001216P520	1		C561LD/RD	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	2
R102	METAL FILM	3 3 Kohm 1/5W J C06003326P520	1		C562	ELECT GE 85C	47 uF	25V	M D040470084100	1
R103	METAL FILM	15 ohm 1/5W J C06001506P520	1		C564	CERAMIC HIK AXIAL	0.1 uF	50V	F D005104097530	1
R104/R105	METAL FILM	4.7 Kohm 1/5W J C06004726P520	2		C565L/R	CERAMIC HIK AXIAL	10000 pF	16V	Y D005103773530	1
R106	METAL FILM	56 ohm 1/5W J C06005606P520	1		C566/C567	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	2
R107	CARBON FILM	10 Kohm 1/5W J C00001036P520	1		C568/C569	FILM POLYESTER	0.027 uF	63V	J D020273068050	2
R108	METAL FILM	1 Kohm 2W J C06001026P520	1		C570	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	1
R109/R110	METAL FILM	10 ohm 2W J C060010066520	2		C571	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	1
R111-R115	METAL FILM	4.7 ohm 2W J C060047066520	5		C572	CERAMIC HIK AXIAL	0.1 uF	50V	F D005104097530	1
R116	CARBON FILM	100 Kohm 1/5W J C00001046P520	1		C573	ELECT GE 85C	0.47 uF	50V	M D040R47087100	1
R117	CARBON FILM	68 Kohm 1/5W J C00006836P520	1		C574	CERAMIC HIK AXIAL	22 pF	50V	D005220067530	1
R118	METAL FILM	3.3 Kohm 1/5W J C06003326P520	1		C575/C576	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	2
R119	METAL FILM	4.7 Kohm 1/5W J C06004726P520	1		C577	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	1
R120	METAL FILM	1 Kohm 1/5W J C06001026P520	1		C579	ELECT GE 85C	10 uF	50V	M D040100087100	1
R121	METAL FILM	1.5 Kohm 1/5W J C06001526P520	1		C580D	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	1
R122-R124	METAL FILM	1 Kohm 1/5W J C06001026P520	3		C581	CERAMIC HIK AXIAL	0.1 uF	50V	F D005104097530	1
R125	CARBON FILM	6.8 Kohm 1/5W J C00006826P520	1		C582L/R	CERAMIC HIK AXIAL	220 pF	50V	B D005221077530	1
R126	METAL FILM	4.7 Kohm 1/5W J C06004726P520	1		C583	CERAMIC HIK AXIAL	220 pF	50V	B D005221077530	1
R127	METAL FILM	470 ohm 1/5W J C06004716P520	1		C584	CERAMIC HIK AXIAL	5600 pF	16V	K D005562773530	1
R142SL/SR	CARBON FILM	24 Kohm 1/5W J C00002436P520	2							
R143	CARBON FILM	24 Kohm 1/5W J C00002436P520	1		CONNECTORS					
R144	CARBON FILM	100 Kohm 1/5W J C00001046P520	1		CN203	CTG 1022 S.T 1533(SHL2X5)#26 2.0		L021102277320	1	
R901SL/SR	METAL FILM	22 ohm 1/5W J C06002206P520	1		CN501	CN WAFER 2 0MM, 19P		L101352371910	1	
R902SL/SR	METAL FILM	22 ohm 1/5W J C06002206P520	1		CN502	CN WAFER 2 0MM, 15P		L101352371510	1	
					CP602	CN WAFER 2 0MM, 9P		L101220090000	1	
MISCELLANEOUS										
RLY101	SDT-SS-112DM/12VDC,5A	G680125020010	1		DIODES					
ST-BY TRANS	ST-BY TRANS, 230V	820028000077B	1	D/RDS	D501-D509	1N4148, SWITCHING		K000414801520	9	
	ST-BY TRANS	8200280726070	1	K	D510	MTZ 5 1B, ZENER		K06005R114520	1	
	ST-BY TRANS, 120V	8200280890070	1	A						
PCB7					INTERGRATED CIRCUITS					
PCB7	ASSEMBLY P.C.BOARD PROCESSOR	7028040954200		A	IC501	LC7822, ANALOG		J0807822000000	1	
PCB7	ASSEMBLY P.C.BOARD PROCESSOR	7028040954220		D/K	IC502	MC14053BCP, MOT		J0401405300000	1	
PCB7	ASSEMBLY P.C.BOARD PROCESSOR	7028040954210		RDS	IC503-IC505	LC7536 ELECT VR		J0847536000010	3	
CAPACITORS					IC506/IC507	NJM2068DD OP		J1212068000000	2	
C501L/R	FILM POLYESTER	0.1 uF	63V	J D020104068050	IC509/IC510	NJM4580L, OP		J1214580000030	2	
C502L/R	FILM POLYESTER	0.1 uF	63V	J D020104068050	IC511/IC512	NJM2068DD, OP		J1212068000000	2	
C503L/R	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	IC513	NJM4580L, OP		J1214580000030	1	
C504L/R	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	IC514	NJM2068DD OP		J1212068000000	1	
C505L/R	ELECT GE 85C	2.2 uF	50V	M D0402R2087100	IC515	NJM4580L, OP		J1214580000030	1	
C506L/R	ELECT GE 85C	4.7 uF	50V	M D0404R7087100	IC516/IC517	NJM2068DD, OP		J1212068000000	2	
C507	CERAMIC T.C AXIAL	100 pF	50V	J D001101077530	IC518/IC519	NJM4580L, OP		J1214580000030	2	

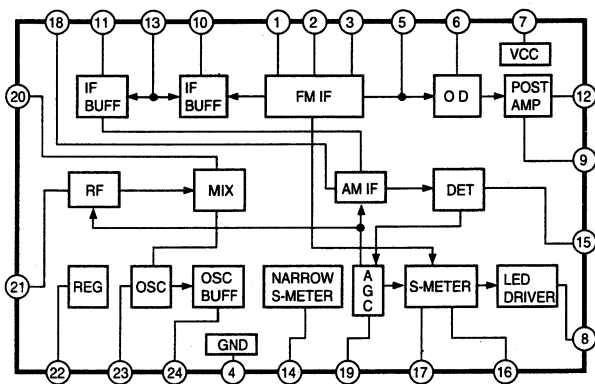
REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.
<b>TRANSISTORS</b>					R588	METAL FILM	1 Kohm 1/5W J	C06001026P520	1
Q501-Q504	DTA114YS, NPN	J6000114Y0010	4		R589/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2
Q505/LR	KTD302, NPN	J5031302B0050	2		R590	METAL FILM	4.7 Kohm 1/5W J	C06004726P520	1
Q506/LR	KTD302, NPN	J5031302B0050	2		R591	METAL FILM	47 ohm 1/5W J	C06004706P520	1
Q507/LR	KTD302, NPN	J5031302B0050	2		R592/LR	METAL FILM	3.9 Kohm 1/5W J	C06003926P520	1
Q508/LR	KTD302, NPN	J5031302B0050	2		R593	CHIP THICK	820 Kohm 1/10W J	C200082460200	1
Q509/LR	2SK117Y, FET	J5441170Y0050	2		<b>MISCELLANEOUS</b>				
Q510/LR	2SK117Y, FET	J5441170Y0050	2		JACK501	TER,RCA 4PIN	G602400450050	1	
<b>RESISTORS</b>					JACK502	TER,RCA 2PIN	G601200440020	1	
R500	CHIP THICK	820 Kohm 1/10W J	C200082460200	1	JACK504	TER,RCA 2PIN	G601200440020	1	
R501/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	<b>PCB8 ASSEMBLY P.C.BOARD S-VIDEO 7028040954800</b>				
R502/LR	CARBON FILM	22 Kohm 1/5W J	C00002236P520	2	<b>CAPACITORS</b>				
R503/LR	CARBON FILM	10 Kohm 1/5W J	C00001036P520	2	C850-C853	ELECT GE 85C	10 uF 35V M	D040100085100	4
R504/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C854C/Y	ELECT GE 85C	10 uF 35V M	D040100085100	2
R506/LR	CARBON FILM	10 Kohm 1/5W J	C00001036P520	2	C855C/Y	ELECT GE 85C	10 uF 35V M	D040100085100	2
R507/LR	CARBON FILM	220 Kohm 1/5W J	C00002246P520	2	C856C/Y	ELECT GE 85C	10 uF 35V M	D040100085100	2
R508/LR	CARBON FILM	56 Kohm 1/5W J	C00005636P520	2	C857C/Y	ELECT GE 85C	10 uF 35V M	D040100085100	2
R509/LR	METAL FILM	1.5 Kohm 1/5W J	C06001526P520	2	C858-C865	FILM POLYESTER	0.1 uF 63V K	D020104078060	8
R510	CARBON FILM	100 Kohm 1/5W J	C00001046P520	1	C867	ELECT GE 85C	100 uF 10V M	D040101082100	1
R511/LR	METAL FILM	470 ohm 1/5W J	C06004716P520	2	C868	CERAMIC HIK DISC	0.01 uF 50V Z	D004103097060	1
R512/R513	METAL FILM	47 ohm 1/5W J	C06004706P520	2	C869	ELECT GE 85C	100 uF 10V M	D040101082100	1
R514/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C870	CERAMIC HIK DISC	0.01 uF 50V Z	D004103097060	1
R515/LR	CHIP THICK	820 Kohm 1/10W J	C200082460200	2	C871	ELECT GE 85C	100 uF 10V M	D040101082100	1
R516/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C872	CERAMIC HIK DISC	0.01 uF 50V Z	D004103097060	1
R517/R518	METAL FILM	1 Kohm 1/5W J	C06001026P520	2	C873	ELECT GE 85C	100 uF 10V M	D040101082100	1
R519/LR	METAL FILM	1 Kohm 1/5W J	C06001026P520	2	C874	CERAMIC HIK DISC	0.01 uF 50V Z	D004103097060	1
R520/LR	METAL FILM	2.2 Kohm 1/5W J	C06002226P520	2	C875	CERAMIC HIK AXIAL	0.1 uF 50V F	D005104097530	1
R521	CARBON FILM	100 Kohm 1/5W J	C00001046P520	1	C875C/Y	ELECT GE 85C	10 uF 35V M	D040100085100	2
R522	METAL FILM	47 ohm 1/5W J	C06004706P520	1	C876-C878	CERAMIC HIK AXIAL	0.1 uF 50V F	D005104097530	3
R523	CARBON FILM	100 Kohm 1/5W J	C00001046P520	1	<b>CONNECTORS</b>				
R524	CARBON FILM	10 Kohm 1/5W J	C00001036P520	1	CP453	CN.WAFER 2.0MM, 8P	L101352370810	1	
R525	CARBON FILM	22 Kohm 1/5W J	C00002236P520	1	CP455	CN.WAFER 2.0MM, 7P	L101071000010	1	
R526	CARBON FILM	100 Kohm 1/5W J	C00001046P520	1	<b>INTEGRATED CIRCUITS</b>				
R527	METAL FILM	1.5 Kohm 1/5W J	C06001526P520	1	IC850-IC853	LC7824 VIDEO SW	J080782400000	4	
R528	CARBON FILM	22 Kohm 1/5W J	C00002236P520	1	IC854/IC855	MC14577, MONITOR	J170145770000	2	
R529/R530	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	<b>TRANSISTORS</b>				
R531/LR	METAL FILM	1 Kohm 1/5W J	C06001026P520	2	Q851C/Y	KTC2878, NPN	J502287800000	2	
R532	METAL FILM	1 Kohm 1/5W J	C06001026P520	1	<b>RESISTORS</b>				
R533	METAL FILM	47 ohm 1/5W J	C06004706P520	1	R850-R853	METAL FILM	10 ohm 1/5W J	C06001006P520	4
R534	METAL FILM	2.2 Kohm 1/5W J	C06002226P520	1	R854C/Y	METAL FILM	82 ohm 1/5W J	C06008206P520	2
R535/R536	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	R855C/Y	METAL FILM	82 ohm 1/5W J	C06008206P520	2
R537/R538	CARBON FILM	33 Kohm 1/5W J	C0000336P520	2	R856C/Y	METAL FILM	82 ohm 1/5W J	C06008206P520	2
R539	CARBON FILM	10 Kohm 1/5W J	C00001036P520	1	R857C/Y	METAL FILM	75 ohm 1/5W J	C06007506P520	2
R540/R541	CARBON FILM	33 Kohm 1/5W J	C0000336P520	2	R858C/Y	METAL FILM	82 ohm 1/5W J	C06008206P520	2
R542	CARBON FILM	5.6 Kohm 1/5W J	C00005626P520	1	R859C/Y	METAL FILM	75 ohm 1/5W J	C06007506P520	2
R543	METAL FILM	4.7 Kohm 1/5W J	C06004726P520	1	R860	CARBON FILM	100 Kohm 1/5W J	C00001046P520	1
R544	CARBON FILM	82 Kohm 1/5W J	C00008236P520	1	R860C/Y	METAL FILM	2.2 Kohm 1/5W J	C06002226P520	2
R545	CARBON FILM	15 Kohm 1/5W J	C00001536P520	1	R861-R863	CARBON FILM	100 Kohm 1/5W J	C00001046P520	3
R546	CARBON FILM	51 Kohm 1/5W J	C00005136P520	1	R864-R871	METAL FILM	1 Kohm 1/5W J	C06001026P520	8
R547/LR	METAL FILM	1 Kohm 1/5W J	C06001026P520	2	<b>PCB9 ASSEMBLY P.C.BOARD TUNER 7028040953800 A/K</b>				
R548	CARBON FILM	100 Kohm 1/5W J	C00001046P520	1	<b>PCB9 ASSEMBLY P.C.BOARD TUNER 7028040780910 D</b>				
R549/LR	CARBON FILM	3.3 Kohm 1/5W J	C0000336P520	2	<b>PCB9 ASSEMBLY P.C.BOARD TUNER 7028040957710 RDS</b>				
R550/LR	CARBON FILM	3.3 Mohm 1/5W J	C00003356P520	2	<b>CAPACITORS</b>				
R551	CARBON FILM	100 Kohm 1/5W J	C00001046P520	1	C1	CERAMIC TUBULAR	0.022 uF 25 V	D005223574530	1
R552	METAL FILM	1.2 Kohm 1/5W J	C06001226P520	1	C10	CERAMIC DISC	100 pF 50 V J	D004101067060	1
R553	CARBON FILM	6.8 Kohm 1/5W J	C00006826P520	1	C11	ELECTROLYTIC SG	47 uF 16 V M	D040470083100	1
R554	METAL FILM	4.7 Kohm 1/5W J	C06004726P520	1	C12	CERAMIC DISC	0.022 uF 50 V Z	D004223097060	1
R555	METAL FILM	2.2 Kohm 1/5W J	C06002226P520	1	C13	CERAMIC TUBULAR	0.022 uF 25 V	D005223574530	1
R556/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C14	ELECTROLYTIC SG	100 uF 16 V M	D040101083100	1
R557/LR	CARBON FILM	10 Kohm 1/5W J	C00001036P520	2	C15	POLY	470 pF 50 V J	D022471067050	1
R558/LR	CARBON FILM	22 Kohm 1/5W J	C00002236P520	2	C16	CERAMIC DISC CH	15 pF 50 V	D000150167070	1
R559/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C17/C18	CERAMIC TUBULAR	0.022 uF 25 V	D005223574530	2
R560/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C2	CERAMIC DISC	0.047 uF 50 V Z	D004473097060	1
R561/LR	METAL FILM	1.5 Kohm 1/5W J	C06001526P520	2	C20	ELECTROLYTIC SG	10 uF 35 V M	D040100085100	1
R562/LR	CARBON FILM	22 Kohm 1/5W J	C00002236P520	2	C21/C22	CERAMIC TUBULAR	0.022 uF 25 V	D005223574530	2
R563/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C23	CERAMIC TUBULAR	0.01 uF 16 V	D005103773530	1
R564/LR	CHIP THICK	820 Kohm 1/10W J	C200082460200	2	C24/C25	CERAMIC DISC	0.022 uF 50 V Z	D004223097060	2
R565/LR	CARBON FILM	100 Kohm 1/5W J	C00001046P520	2	C26	ELECTROLYTIC SG	4.7 uF 50 V M	D0404R7087100	1
R566	METAL FILM	1 Kohm 1/5W J	C06001026P520	1	C27	ELECTROLYTIC SG	3.3 uF 50 V M	D0403R3087100	1
R567/LR	METAL FILM	1 Kohm 1/5W J	C06001026P520	2	C28	ELECTROLYTIC SG	4.7 uF 50 V Z	D0404R7087100	1
R568/LR	METAL FILM	4.7 Kohm 1/5W J	C06004726P520	2	C29	CERAMIC DISC	0.022 uF 50 V Z	D004223097060	1
R569/LR	METAL FILM	2.2 Kohm 1/5W J	C06002226P520	2	C3	ELECTROLYTIC SG	3.3 uF 50 V M	D0403R3087100	1
R570-R573	CARBON FILM	15 Kohm 1/5W J	C00001536P520	4	C30	MYLAR	0.022 uF 100 V J	D02022306C060	1
R574	METAL FILM	2.2 Kohm 1/5W J	C06002226P520	1	C31	MYLAR	0.0033 uF 100 V J	D02033206C060	1
R575	CARBON FILM	10 Kohm 1/5W J	C00001036P520	1	C32	MYLAR	0.039 uF 100 V J	D02039306C060	1
R576/R577	METAL FILM	1 Kohm 1/5W J	C06001026P520	2	C33	ELECTROLYTIC SG	1 uF 50 V M	D040010087010	1
R578	CARBON FILM	10 Kohm 1/5W J	C00001036P520	1	C34	CERAMIC TUBULAR	0.022 uF 25 V	D005223574530	1
R579	METAL FILM	4.7 Kohm 1/5W J	C06004726P520	1	C35	ELECTROLYTIC SG	100 uF 16 V M	D040101083100	1
R580/LR	METAL FILM	470 ohm 1/5W J	C06004716P520	2	C36	CERAMIC DISC	330 pF 50 V J	D004331067060	1
R581/LR	METAL FILM	47 ohm 1/5W J	C06004706P520	2					
R582/LR	METAL FILM	1.8 Kohm 1/5W J	C06001826P520	2					
R583	METAL FILM	2.7 Kohm 1/5W J	C06002726P520	1					
R584	METAL FILM	3.9 Kohm 1/5W J	C06003926P520	1					
R585	METAL FILM	47 ohm 1/5W J	C06004706P520	1					
R586	CARBON FILM	33 Kohm 1/5W J	C0000336P520	1					
R587	METAL FILM	4.7 Kohm 1/5W J	C06004726P520	1					



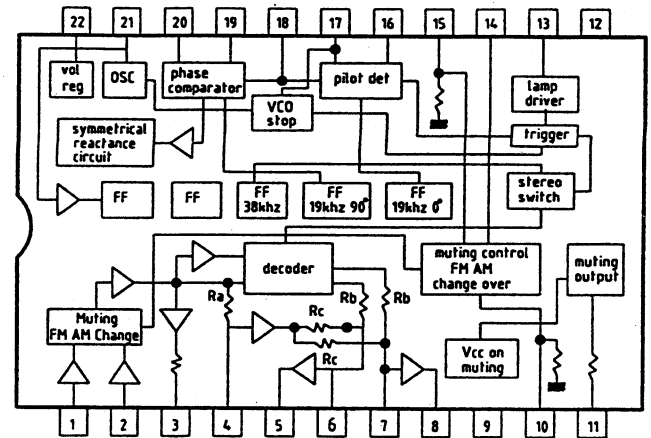
REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.	REF NO.	DESCRIPTION	PARTS NO.	Q'TY	VER.						
C37C	CERAMIC DISC	82 pF	50 V	J	D000820067060	1	D/RDS	R31	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	1	A
C38C	CERAMIC DISC	100 pF	50 V	J	D004101067060	1	D/RDS	R31	METAL FILM	2.7 kohm	1/5 W	J	C05002726P520	1	D/RDS
C39	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1		R32	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P520	1	
C4	CERAMIC TUBULAR	0.01 uF	16 V		D005103773530	1		R33	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	1	
C40D	CERAMIC TUBULAR	0.022 uF	25 V		D005223574530	1	RDS	R34	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1	
C41	ELECTROLYTIC SG	4.7 uF	50V	M	D0404R7087100	1		R35C	METAL FILM	1.8 kohm	1/5 W	J	C06001826P520	1	D/RDS
C42	CERAMIC TUBULAR	0.047 uF	50 V		D005473097530	1		R36D	CARBON FILM	47 kohm	1/5 W	J	C00004736P520	1	D/RDS
C43	CERAMIC DISC	680 pF	50 V	J	D004681067060	1		R37D	METAL FILM	22 kohm	1/5 W	J	C06002206P520	1	RDS
C44	ELECTROLYTIC SG	100 uF	16 V	M	D040101083100	1		R38D	METAL FILM	1 kohm	1/5 W	J	C05001026P520	1	RDS
C45	ELECTROLYTIC SG	1 uF	50 V	M	D040010087100	1		R39	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1	
C46	ELECTROLYTIC SG	0.22 uF	50 V	M	D040R22087100	1		R4	CARBON FILM	100 kohm	1/5 W	J	C00001046P520	1	
C47	ELECTROLYTIC SG	1 uF	50 V	M	D040010087050	1		R40	CARBON FILM	47 kohm	1/5 W	J	C00004736P520	1	
C48	CERAMIC DISC	0.022 uF	50 V	Z	D004223097060	1		R41	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1	
C49	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1		R42	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	1	
C5	ELECTROLYTIC SG	47 uF	16 V	M	D040470083100	1		R43	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1	
C50/LR	CERAMIC DISC	220 pF	50 V	J	D004221067060	2	D/RDS	R44	CARBON FILM	47 kohm	1/5 W	J	C00004736P520	1	
C50/LR	CERAMIC DISC	560 pF	50 V	J	D004561067060	2	A	R46/LR	CARBON FILM	120 kohm	1/5 W	J	C00001246P520	2	A
C51/LR	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	2		R46/LR	CARBON FILM	220 kohm	1/5 W	J	C06002216P520	2	D/RDS
C53	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1		R47/LR	CARBON FILM	180 kohm	1/5 W	J	C00001846P520	2	A
C54D	CERAMIC TUBULAR	270 pF	50 V		D005271077530	1	RDS	R47/LR	CARBON FILM	270 kohm	1/5 W	J	C00002746P520	2	D/RDS
C55D	ELECTROLYTIC SG	47 uF	16 V	M	D040470083100	1	RDS	R48/LR	METAL FILM	2.7 kohm	1/5 W	J	C06002726P520	2	
C56D	ELECTROLYTIC SG	10 uF	35 V	M	D040100085100	1	RDS	R49/LR	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	2	
C57D	CERAMIC TUBULAR	0.1 uF	50 V		D005104097530	1	RDS	R5	METAL FILM	470 ohm	1/5 W	J	C05004716P520	1	
C58D/C59D	CERAMIC DISC	27 pF	50 V	J	D004270067060	1	RDS	R50D	METAL FILM	680 ohm	1/5 W	J	C05006816P520	1	RDS
C6	CERAMIC TUBULAR	0.022 uF	25 V		D005223574530	1		R51D-R54D	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	4	RDS
C60D	ELECTROLYTIC SG	0.1 uF	50 V	Z	D004104097060	1	RDS	R55D	METAL FILM	1 kohm	1/5 W	J	C05001026P520	1	RDS
C62L/R	CERAMIC DISC	10 pF	50 V	J	D000100067060	2	D/RDS	R56D	CARBON FILM	2.2 Mohm	1/5 W	J	C00002256P520	1	RDS
C62L/R	CERAMIC DISC	68 pF	50 V	J	D000680067060	2	A	R57/LR	METAL FILM	1.5 kohm	1/5 W	J	C06001526P520	2	RDS
C7	CERAMIC TUBULAR	0.01 uF	16 V		D005103773530	1		R6	CARBON FILM	100 kohm	1/5 W	J	C00001046P520	1	
C8/C9	CERAMIC DISC CH	18 pF	50 V	B	D000180167070	2		R7	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	1	
	CONNECTOR							R8	METAL FILM	270 ohm	1/5 W	J	C06002716P520	1	
CN100	PLUG, 15P		L112524191900	1				R9	METAL FILM	560 ohm	1/5 W	J	C06005616P520	1	
	CERAMIC FILTERS								COILS						
CF1	10 7MA8-A-TF21		E430107000140	1	A			T1	AM-ANT				D304564300000	1	
CF1	10 7MS3GH-ATF21		E430107000150	1	D/RDS			T2	AM-OSC				D940111027000	1	
CF3	10 7MA8-A-TF21		E430107000140	1	A			T3	AM-IFT				D950010050000	1	
CF3	10 7MS3GH-ATF21		E430107000150	1	D/RDS			T4	FM-DET-A				D970010020000	1	
CF4	CFM2-450BL		E431450000120	1				T5	FM-DET-B				D970010030000	1	
								T6L/R	MPX(19/38kHz)				E401500100000	2	
	DIODES								SEMI FIXED VARIABLE RESISTORS						
D1	ZENER, UZ 5.1V BSB		K06005R114520	1				VR1	5K(B)-H				C541502115000	1	
D2	1N4148 SWITCHING		K000414801520	1				VR2	50K(B)-H				C541503115000	1	
D3D	ZENER, UZ 5.1V BSB		K06005R114520	1	RDS			VR3	200K(B)-H				C541204115000	1	
VD1/VD2	VARACTOR SVC321 SPA-C		K080032100520	2											
	INTEGRATED CIRCUITS								MISCELLANEOUS						
IC1	LM7001M PLL		J124700100010	1				ANT1	TERMINAL ANT				G590040460000A	1	D/RDS
IC2	LA1266G AM/FM IF		J124126600010	1				ANT1	TERMINAL ANT				G594040530000	1	
IC3	L34001. MPX		J124340100010	1				B	WIRE LUG				L046221014580	1	RDS
IC4D	TDA7330BD, RDS DECODER		J020733000010	1	RDS			FE1	FM TUNER, FTA3-506HB				E900350600110	1	
IC5D	LC7073M, ERROR CORRECTION		J124707300010	1	RDS			FE1	FM TUNER, FTH4-460H				E900446000110	1	D/RDS
	TRANSISTORS							L1C	COIL INDUCTOR 20.8MH				D330208001120	1	D/RDS
Q1/Q2	2SC1740S, NPN		J5021740Y0050	2				TC1	CAPACITOR TREMMER, 10 pF				D110100901100	1	
Q10D	DTC114YS NPN		J6020114Y0050	1				X1	X-TAL, 7.2MHz				E800720000090	1	
Q3	KTC1923Y/BKTC3194Y, NPN		J5023194Y0050	1				X2	CSB456F, CRYSTAL				E830456000050	1	
Q4-Q6	KRA107M/DTA114YS, PNP		J601107M00050	3				X3D	X4M332, CRYSTAL				E800433200050	1	D/RDS
Q7D	2SC1740S, NPN		J5021740Y0050	1	RDS				* FRONT PCB ASS'Y (PCB4) INCLUDES THE FOLLOWING BOARDS.						
Q8L/R	DTC323TS, NPN		J602323TS0050	2					(1) THE ASS'Y PCB SPKR (PCB4-1).						
Q9	KRA107M/DTA114YS, PNP		J601107M00050	1					(2) THE ASS'Y PCB PUSH SW (PCB4-2).						
	RESISTORS								(3) THE ASS'Y PCB TACK SW (PCB4-3).						
R1	CARBON FILM	100 kohm	1/5 W	J	C00001046P520	1			(4) THE ASS'Y PCB H/P & SPKR SEL (PCB4-4).						
R10	METAL FILM	1 kohm	1/5 W	J	C06001026P520	1			(5) THE ASS'Y PCB ENT (PCB4-5).						
R11	METAL FILM	180 ohm	1/5 W	J	C06001816P520	1			(6) THE ASS'Y PCB CNC (PCB4-6).						
R11	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1	D/RDS		(7) THE ASS'Y PCB TONE (PCB4-7).						
R12	METAL FILM	560 ohm	1/5 W	J	C06005616P520	1			* INPUT PCB ASS'Y (PCB5) INCLUDES THE FOLLOWING BOARDS.						
R13	METAL FILM	3.3 kohm	1/5 W	J	C06003326P520	1			(1) THE ASS'Y PCB AUDIO INPUT (PCB5-1).						
R14	METAL FILM	560 ohm	1/5 W	J	C06005616P520	1			(2) THE ASS'Y PCB VIDEO INPUT (PCB5-2).						
R15	METAL FILM	470 ohm	1/5 W	J	C06004716P520	1									
R16	METAL FILM	100 ohm	1/5 W	J	C06001016P520	1									
R17-R19	METAL FILM	1 kohm	1/5 W	J	C06001026P520	3									
R2	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P520	1									
R20	METAL FILM	330 ohm	1/5 W	J	C06003316P520	1									
R21	METAL FILM	270 ohm	1/5 W	J	C06002716P520	1									
R22	METAL FILM	470 ohm	1/5 W	J	C06004716P520	1									
R24	METAL FILM	4.7 kohm	1/5 W	J	C06004726P520	1									
R25	CARBON FILM	68 kohm	1/5 W	J	C00006836P520	1									
R26	CARBON FILM	18 kohm	1/5 W	J	C00001836P520	1									
R26	CARBON FILM	39 kohm	1/5 W	J	C00003936P520	1	D/RDS								
R27	CARBON FILM	10 kohm	1/5 W	J	C00001036P520	1									
R28	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1									
R29	METAL FILM	22 ohm	1/5 W	J	C06002206P520	1									
R3	CARBON FILM	22 kohm	1/5 W	J	C00002236P520	1									
R30	METAL FILM	4.7 kohm	1/5 W	J	C06004726P520	1									

## IC'S FUNCTIONAL BLOCK DIAGRAM

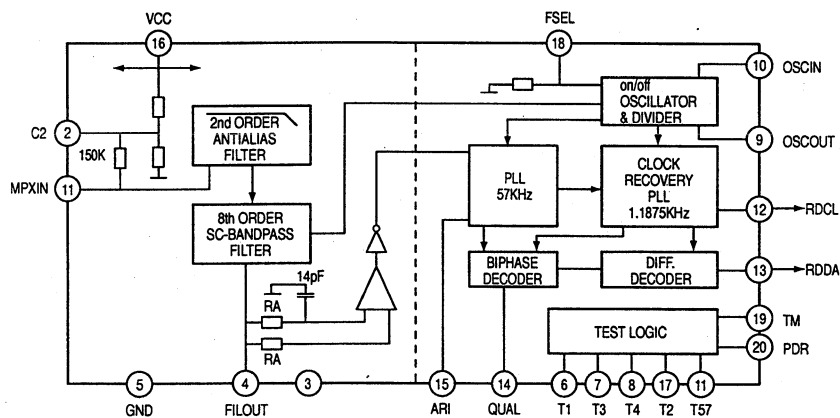
**IC2 : LA1266G**



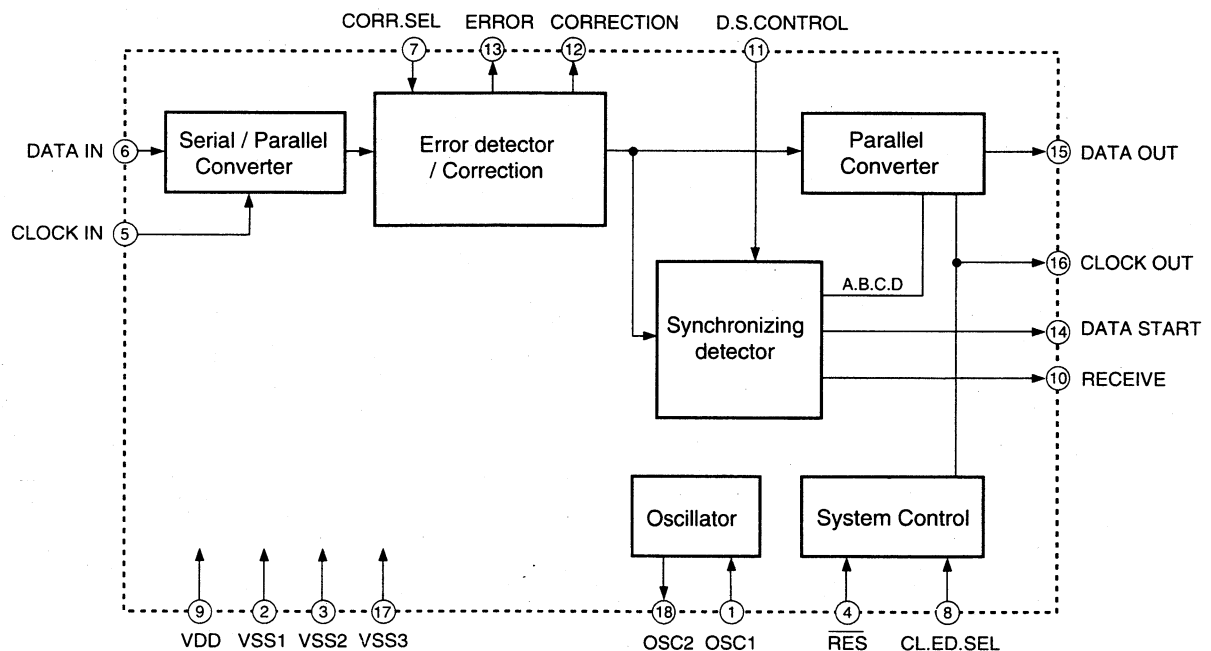
**IC3 : LA3401**



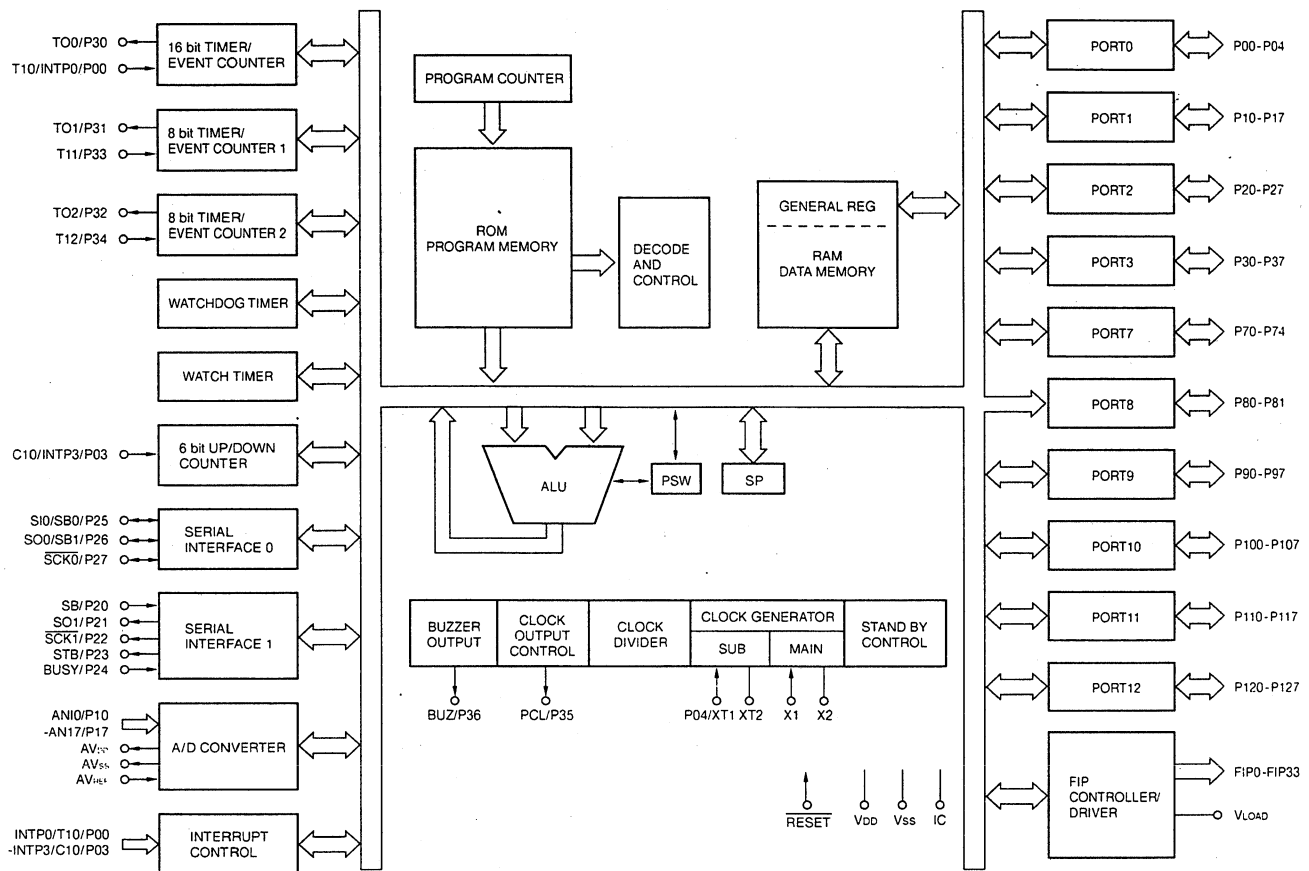
**IC4 : TDA7330BD**



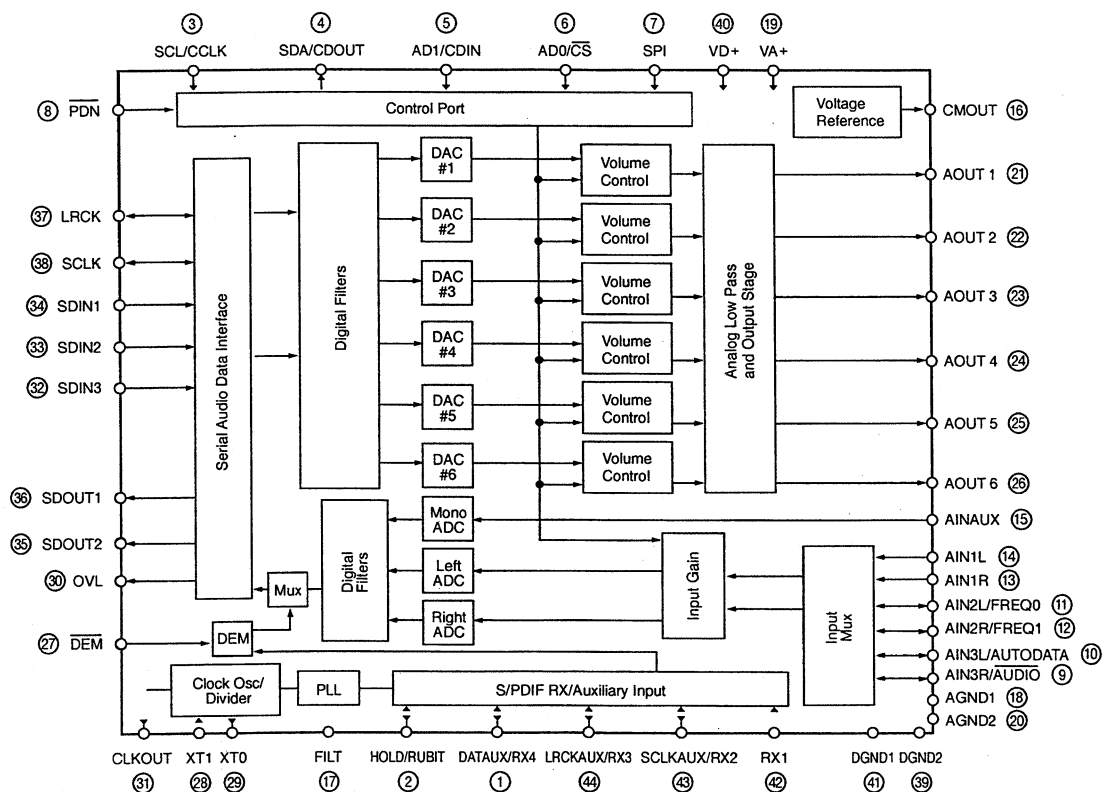
**IC5 : LC7073M**



## IC14 : UPD78042GF



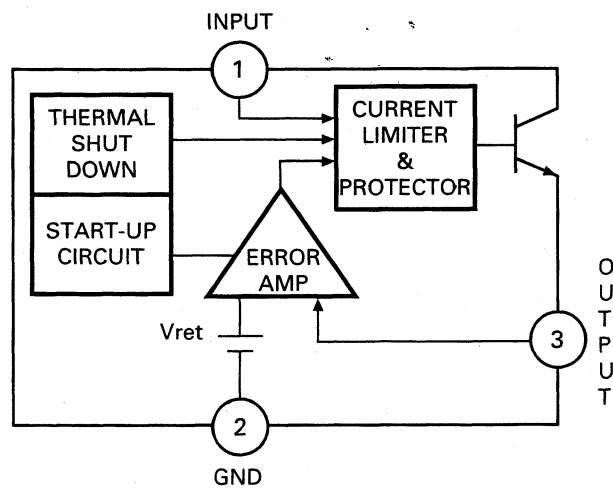
## IC4 : CS 4226A/D



**IC101, 104 : KIA7806**

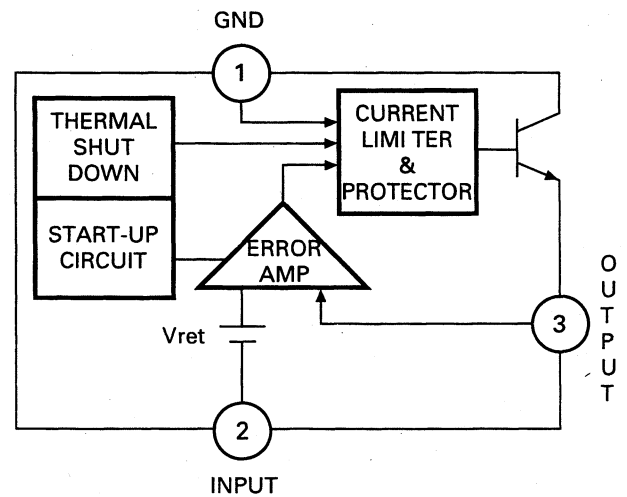
**IC102 : KIA7815**

**IC108/110 : KIA7805**



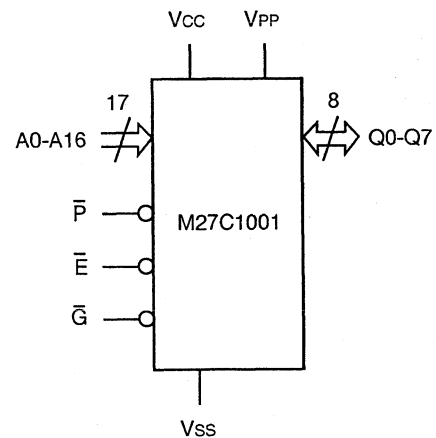
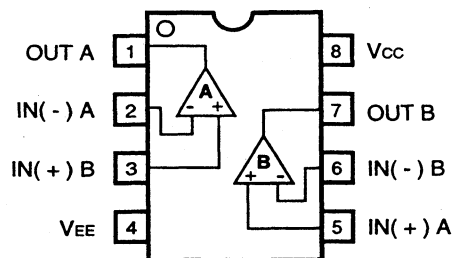
**IC103 : KIA7915**

**IC105, 109 : KIA7905**

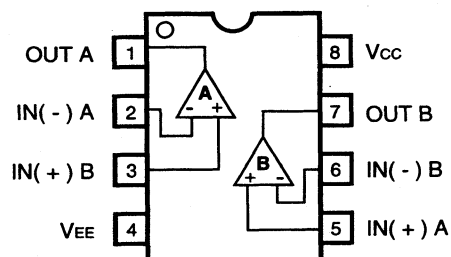


**IC20 : NM27C010**

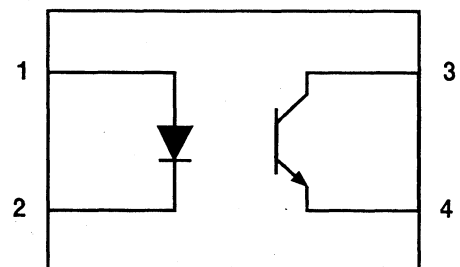
**IC402~404 : KIA4559P**



**IC13, IC8, 5, 9, 601, 506, 507,  
511, 512, 514, 516, 517 : NJM2068**

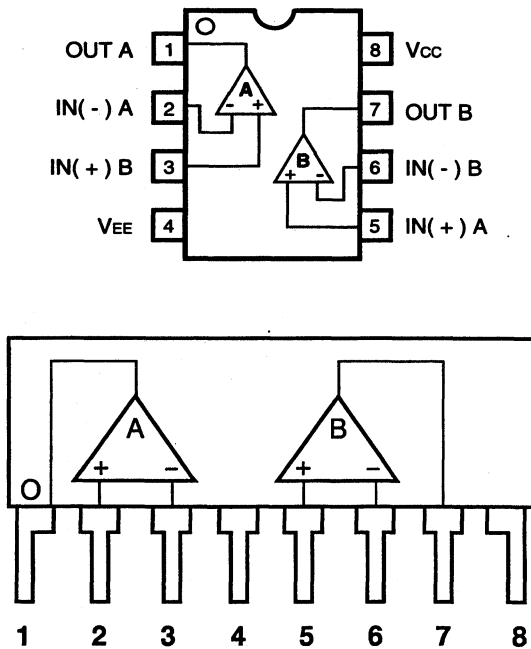


**IC107 : LTV817**

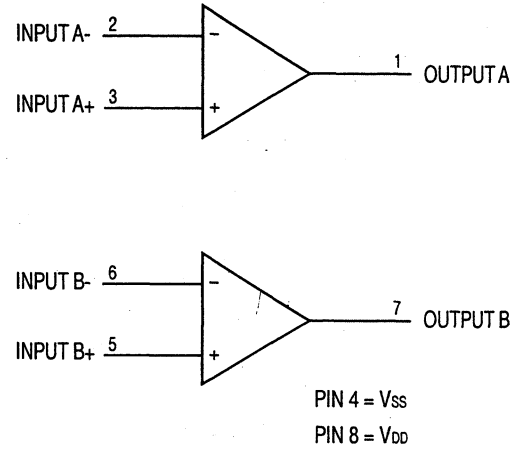


- |            |              |
|------------|--------------|
| 1. Anode   | 3. Emitter   |
| 2. Cathode | 4. Collector |

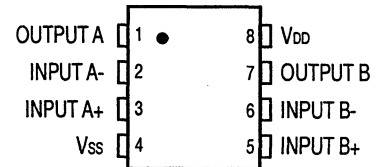
**IC 513, 509/510, 515, 518/519 :  
NJM4580**



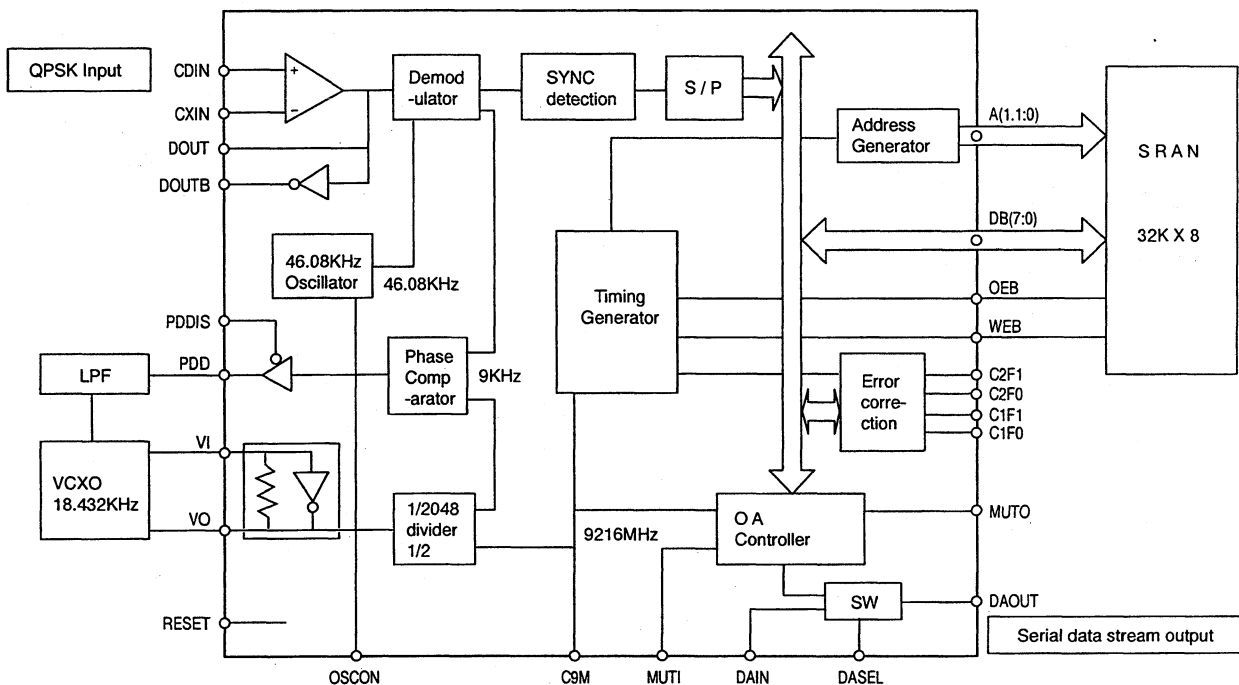
**IC7, 854, 855, 803, 804 :  
MC14577**



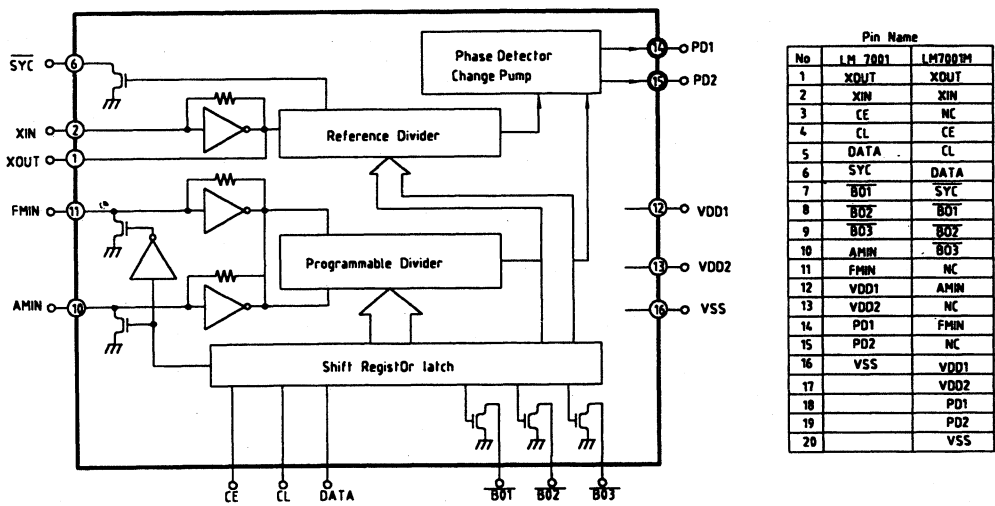
**PIN ASSIGNMENT**



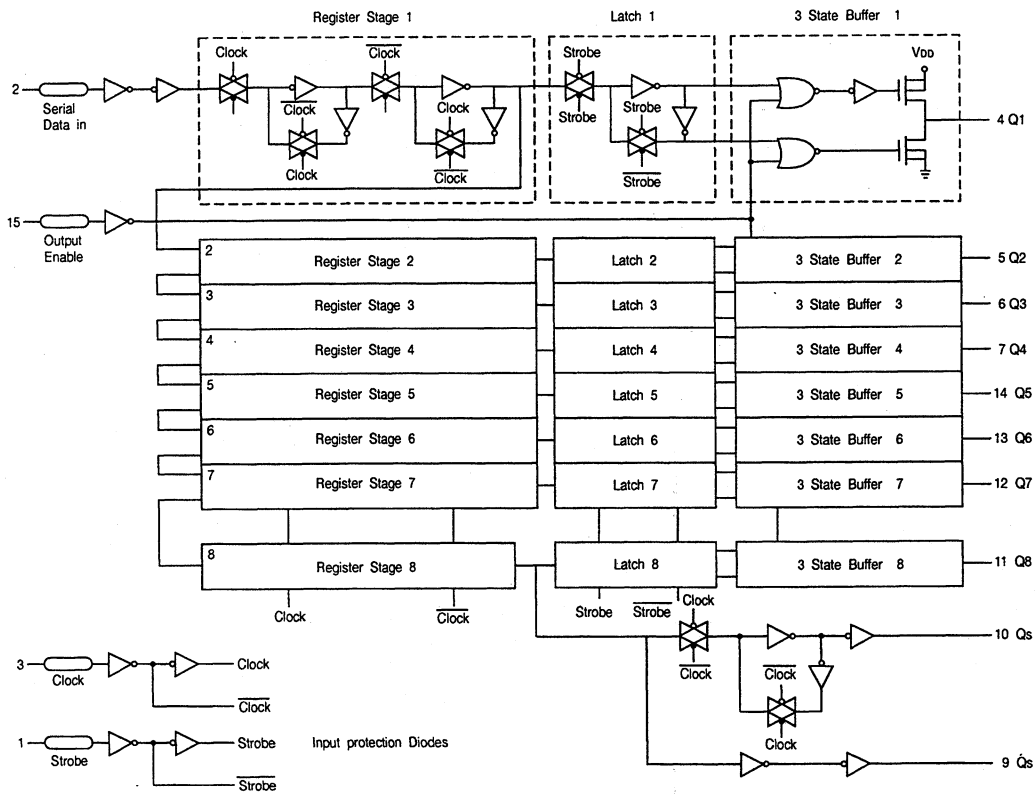
**IC11 : PM4007A**



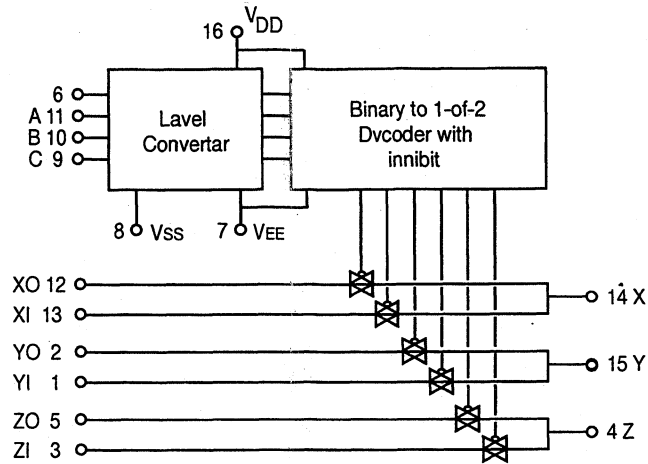
IC 1 : LM7001M



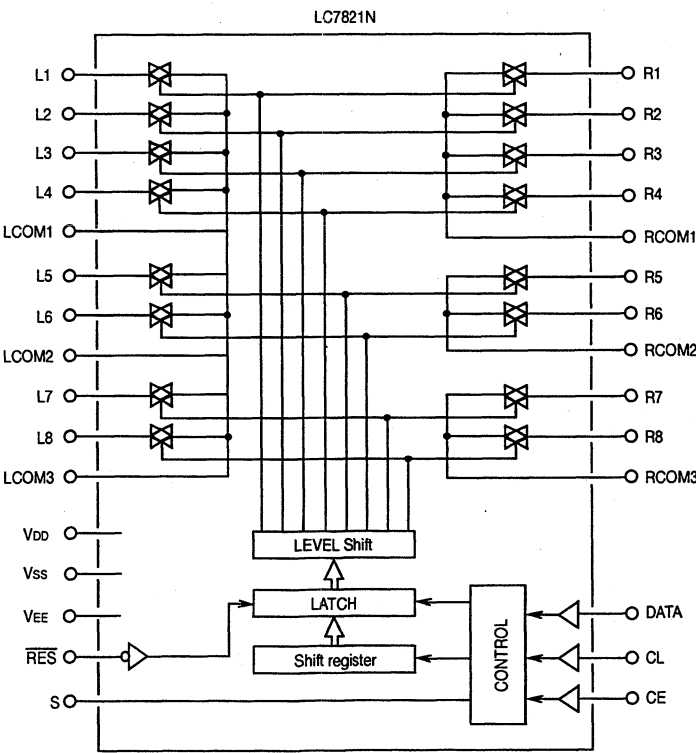
IC106 : MC14094B



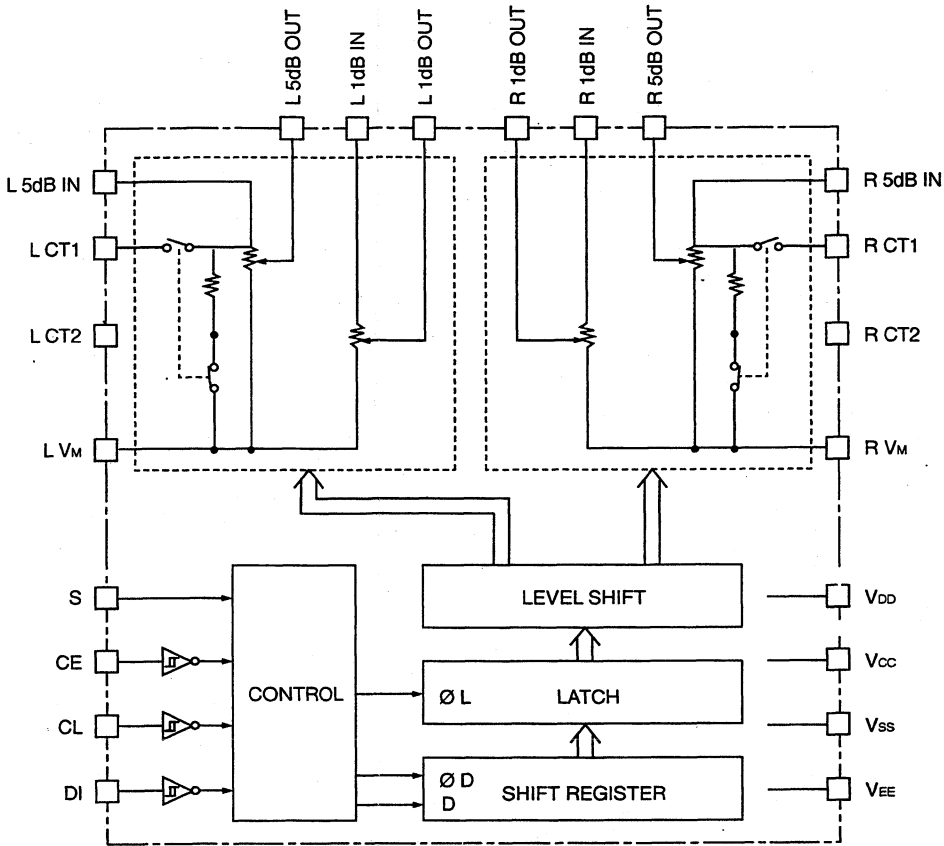
IC451, 502 : MC14053



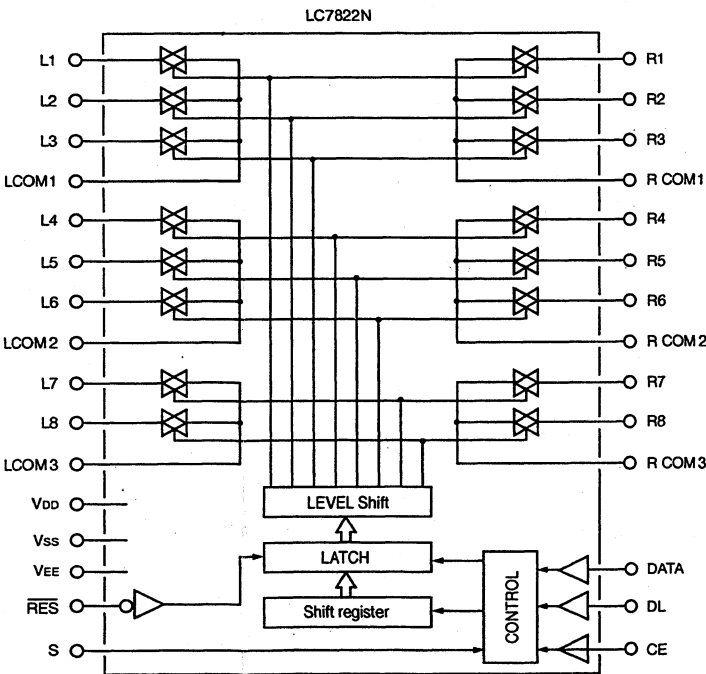
IC 401, 450 : LC7821N



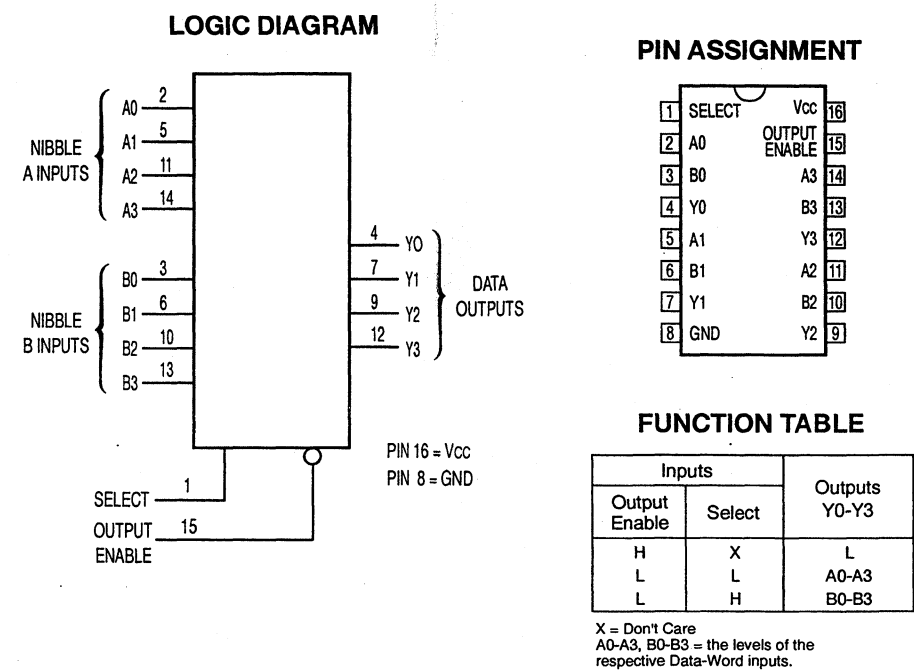
IC 503, 504, 505 : LC7536



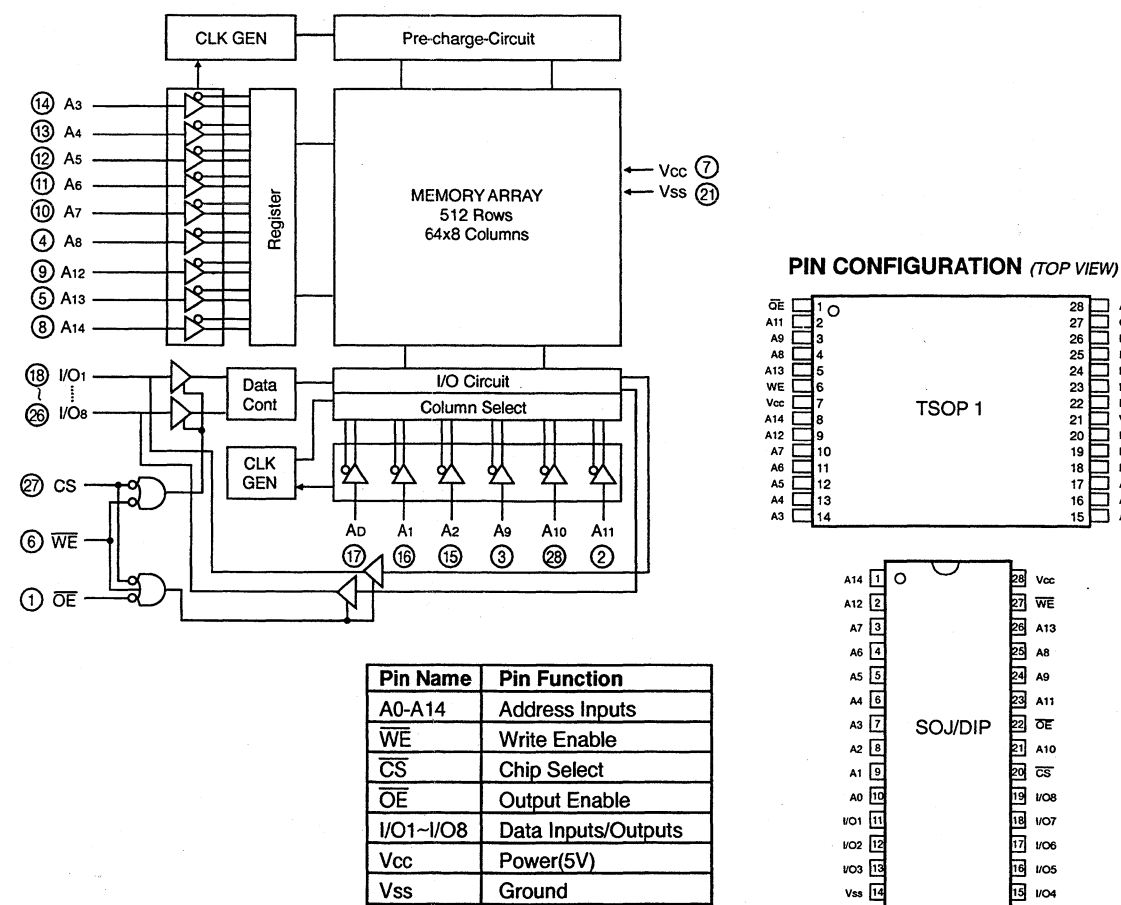
IC 501 : LC7822N



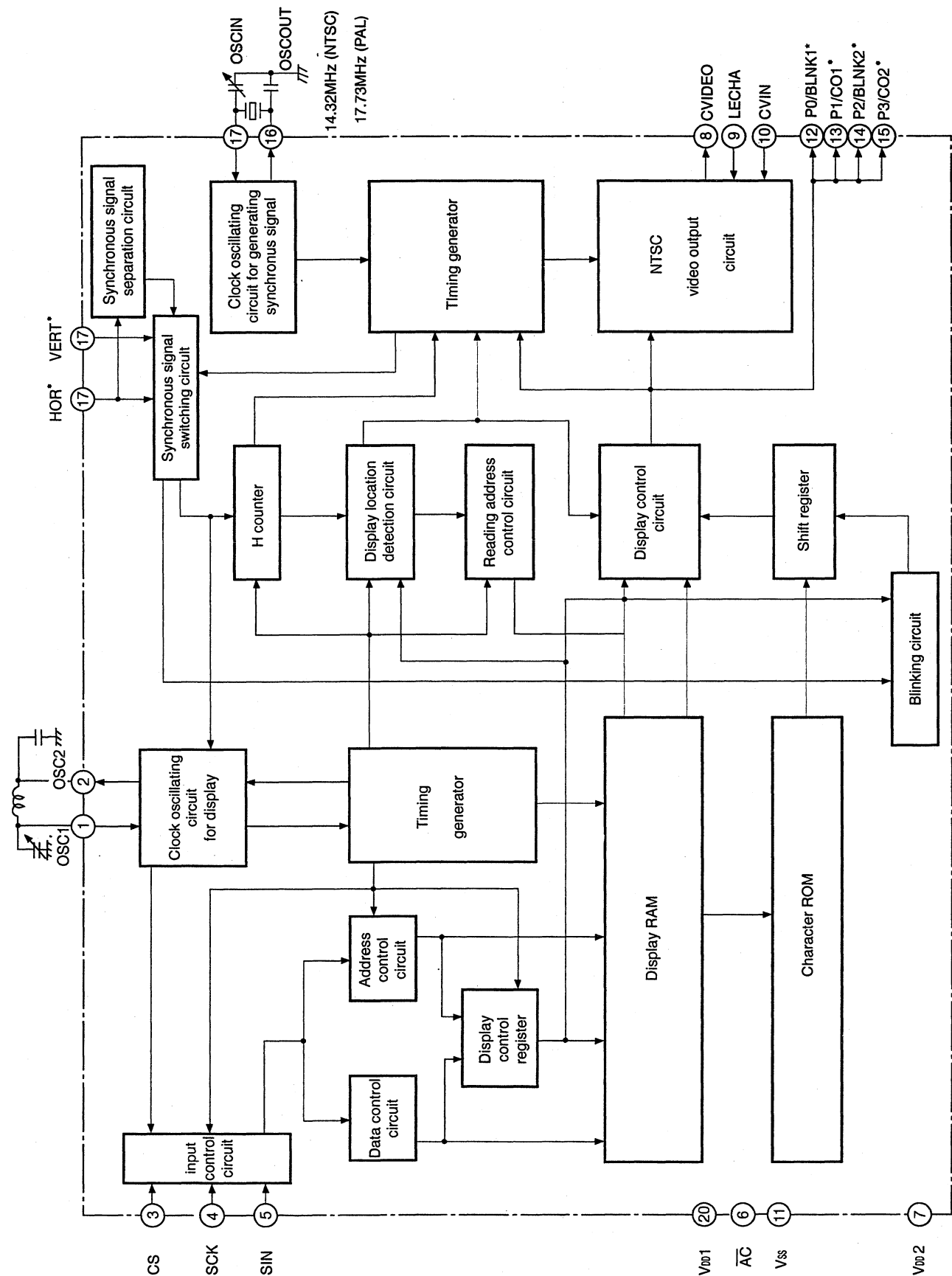
IC6 : 74HC157



IC 12, 19 : KM68257 CJ

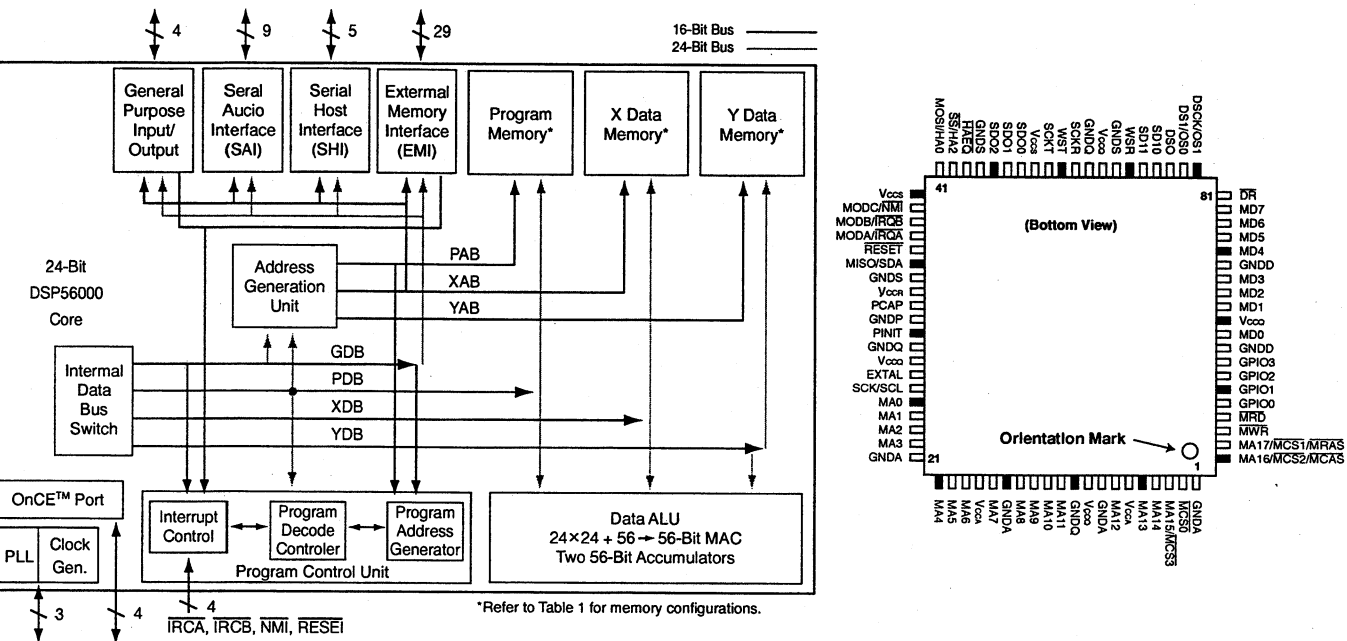


IC806 : M35010-00ISD

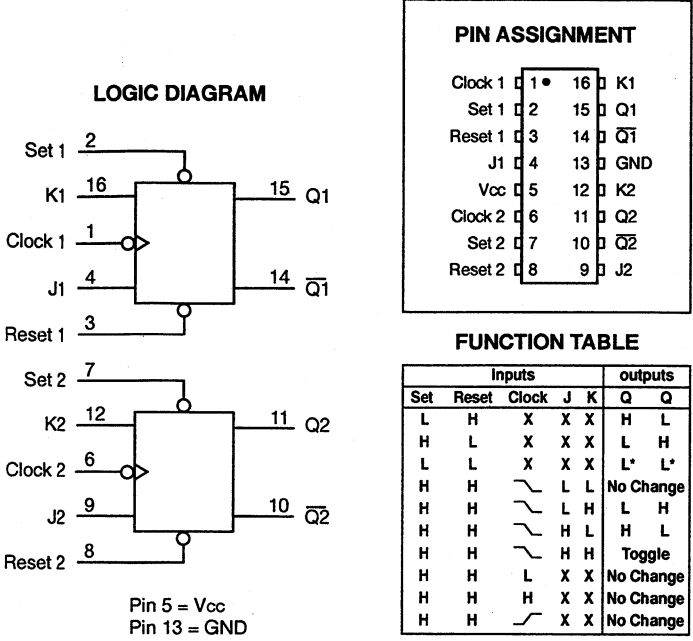


Note : The pins remarked "\*" are selectabled the input or output polarity when the character ROM masked.

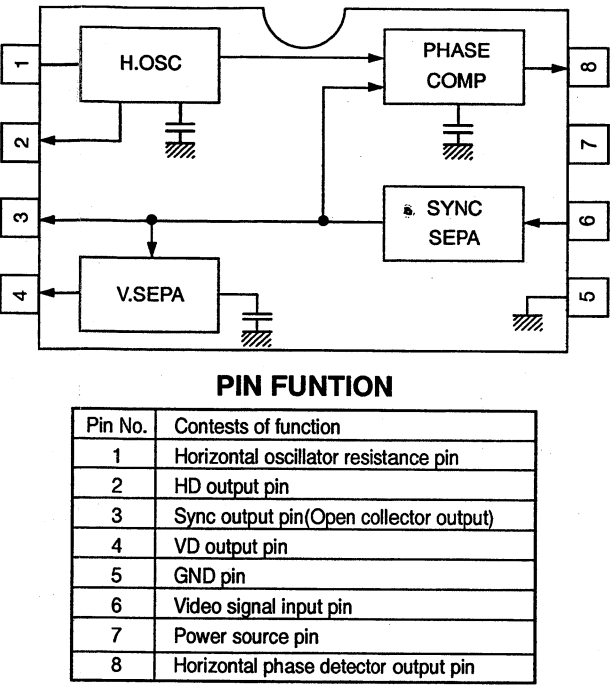
IC1/18 : DSP56009



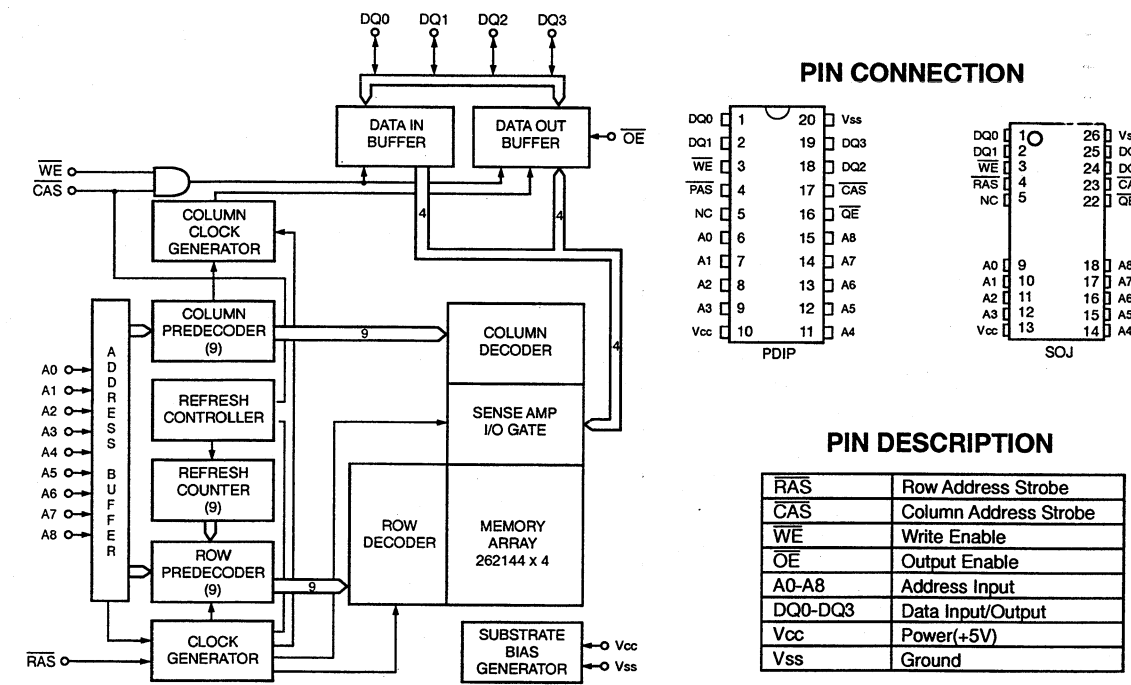
IC 15 : MC74HC76N



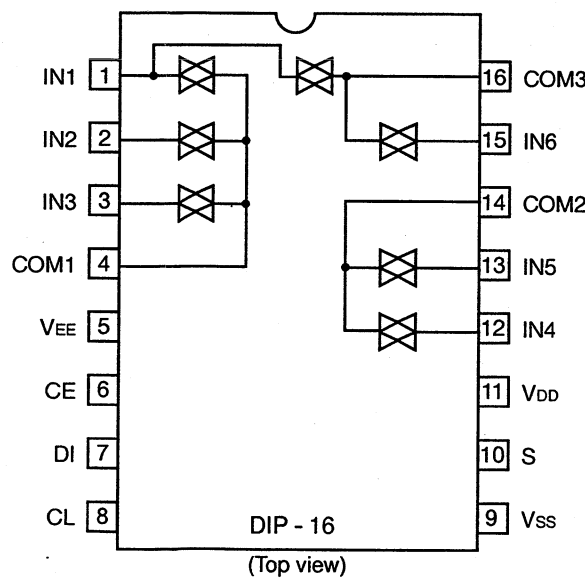
IC805 : BA7046



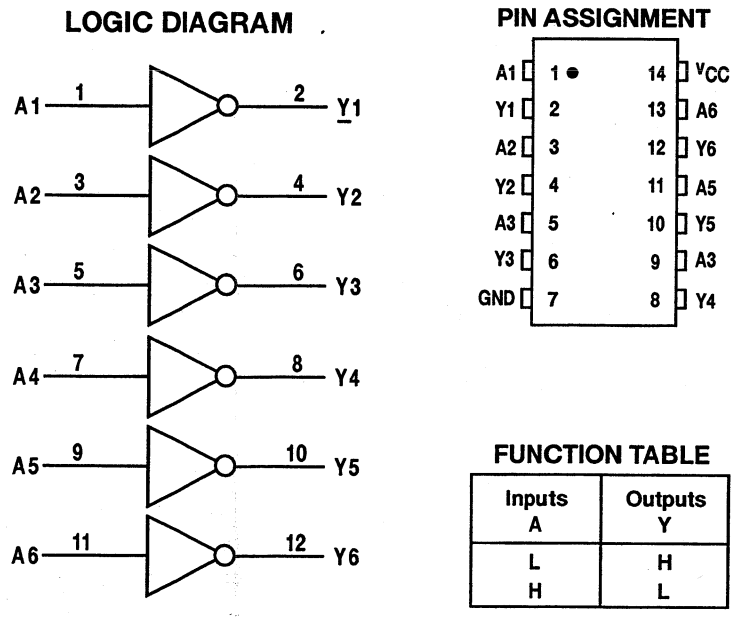
IC2, 3 : HY534256



IC801, 802, 850, 851, 852, 853, 854, : LC7824



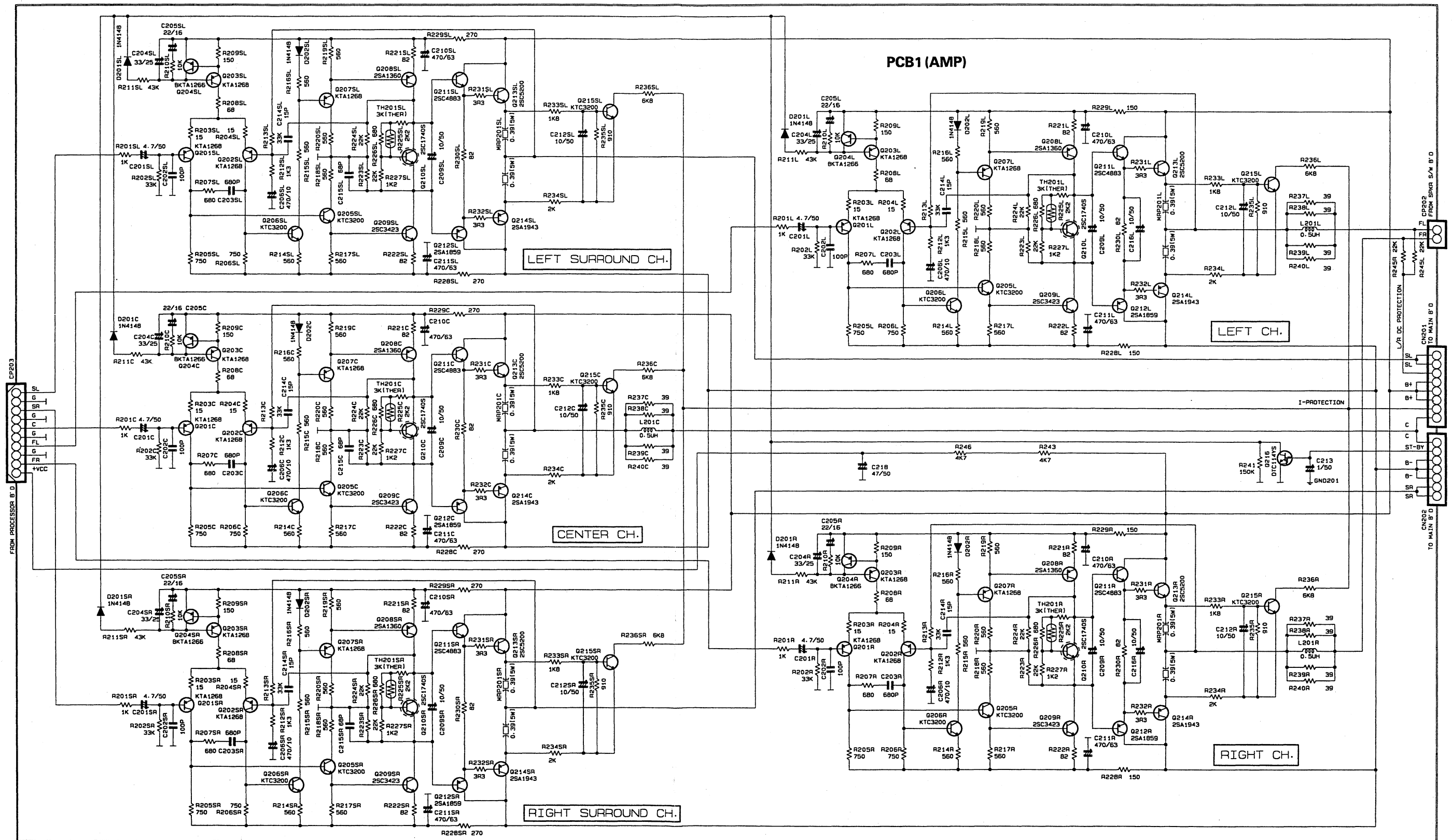
IC 16/17 : MC74HC04AD





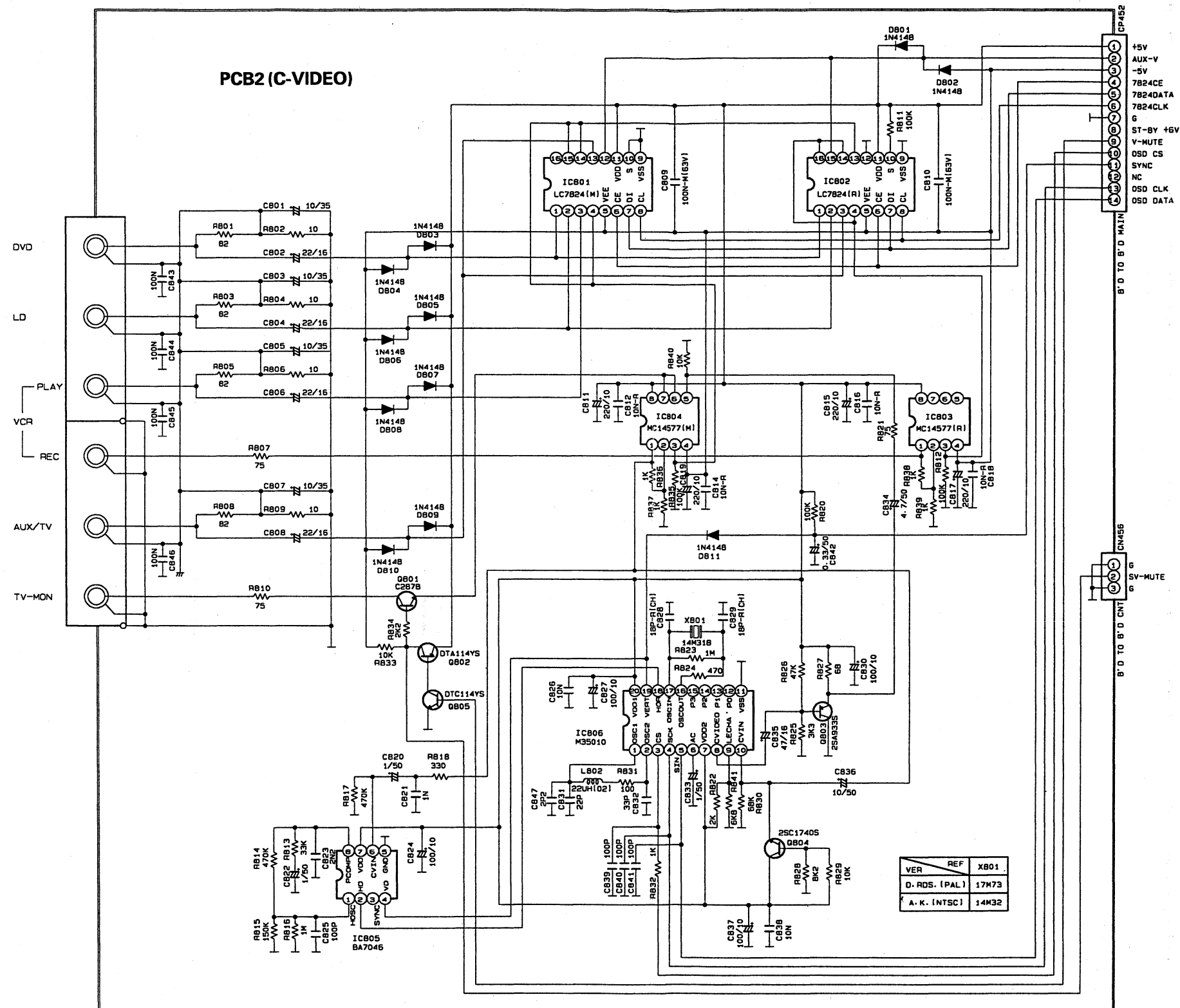
# SCHEMATIC DIAGRAM (I)

Model No. : R-945R/R-945RDS



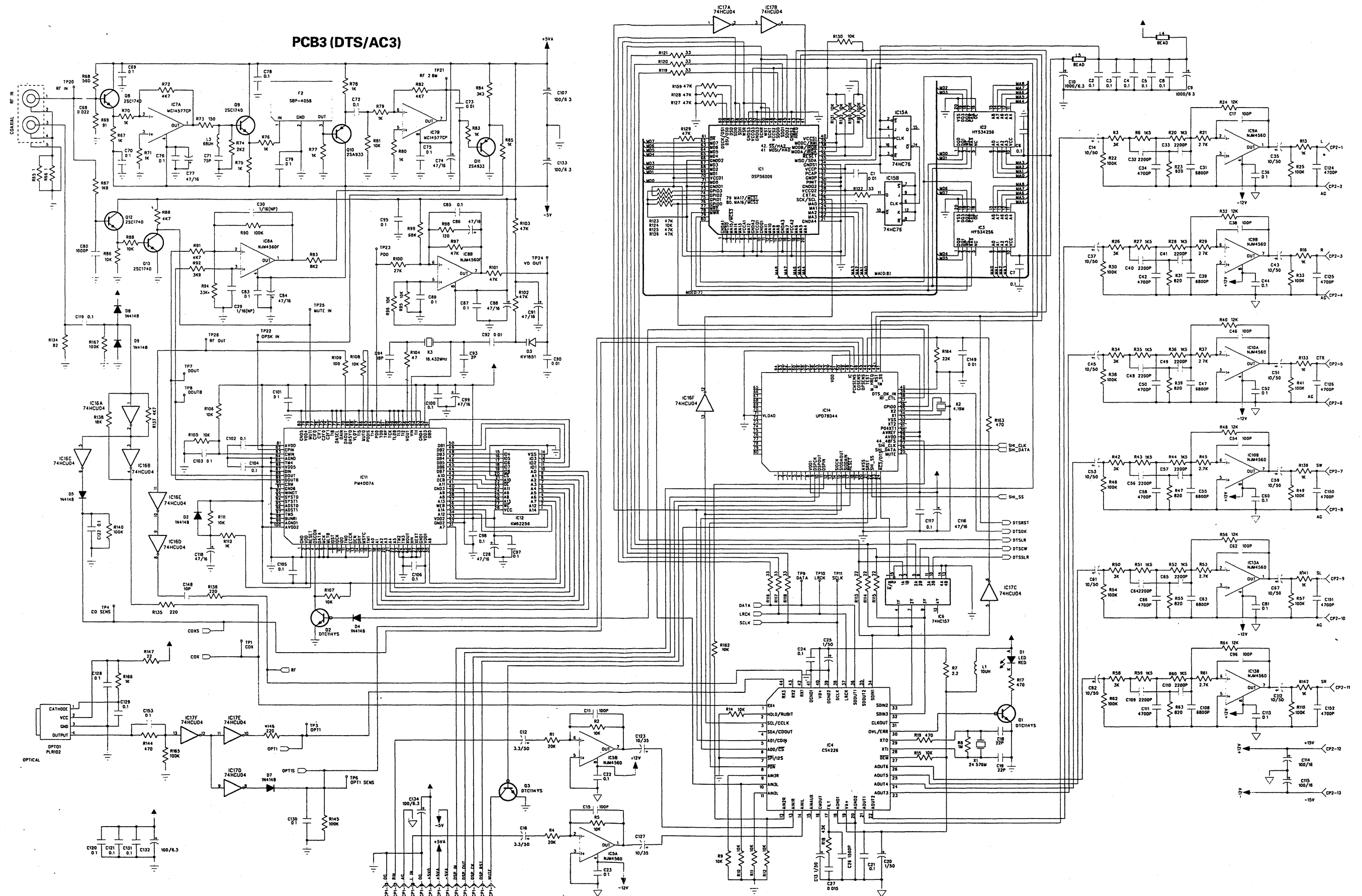
# SCHEMATIC DIAGRAM (II)

Model No. : R-945R/R-945RDS

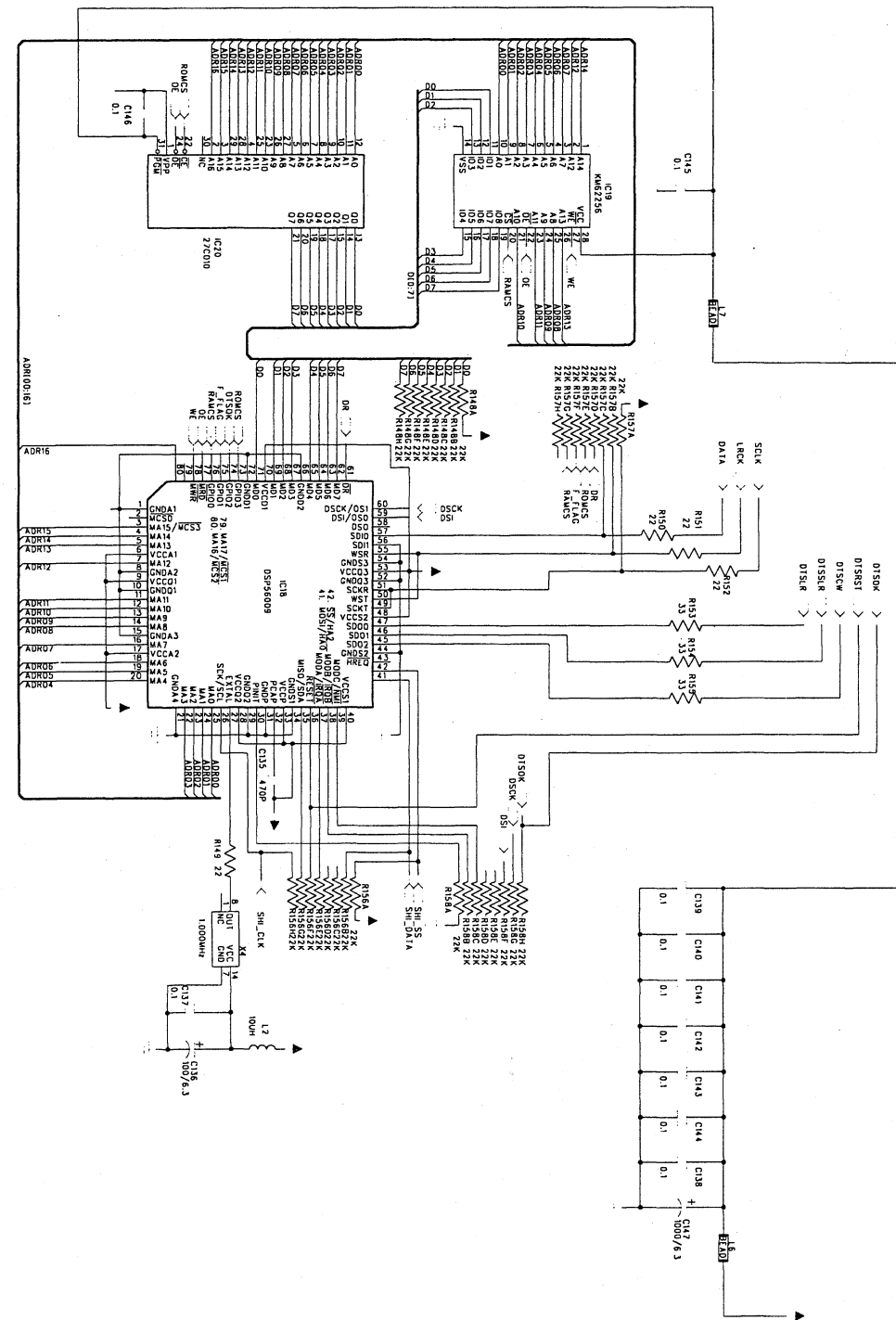


# SCHEMATIC DIAGRAM (III)

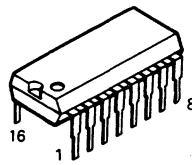
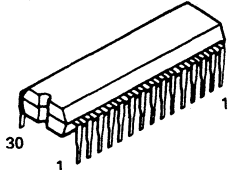
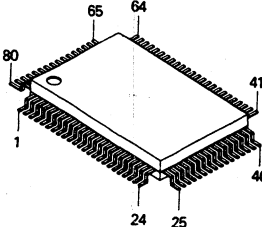
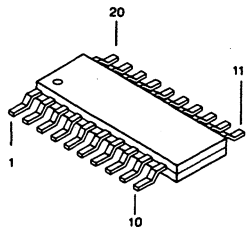
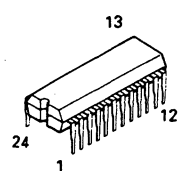
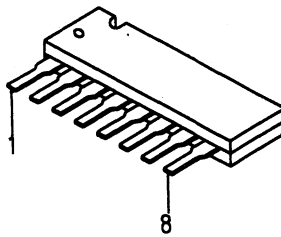
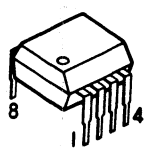
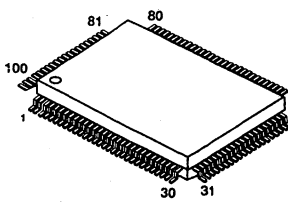
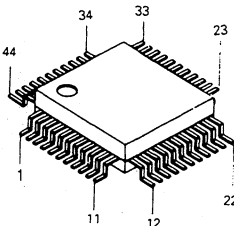
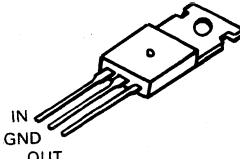
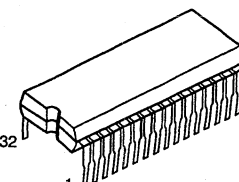
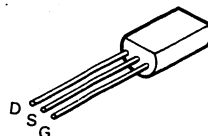
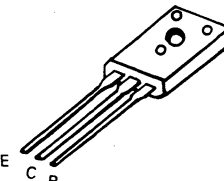
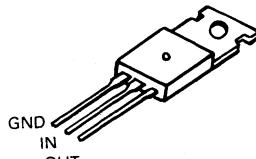

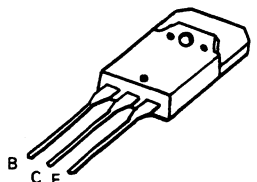
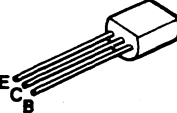
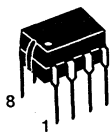

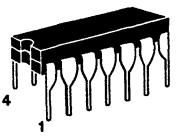
Model No. : R-945R/R-945RDS



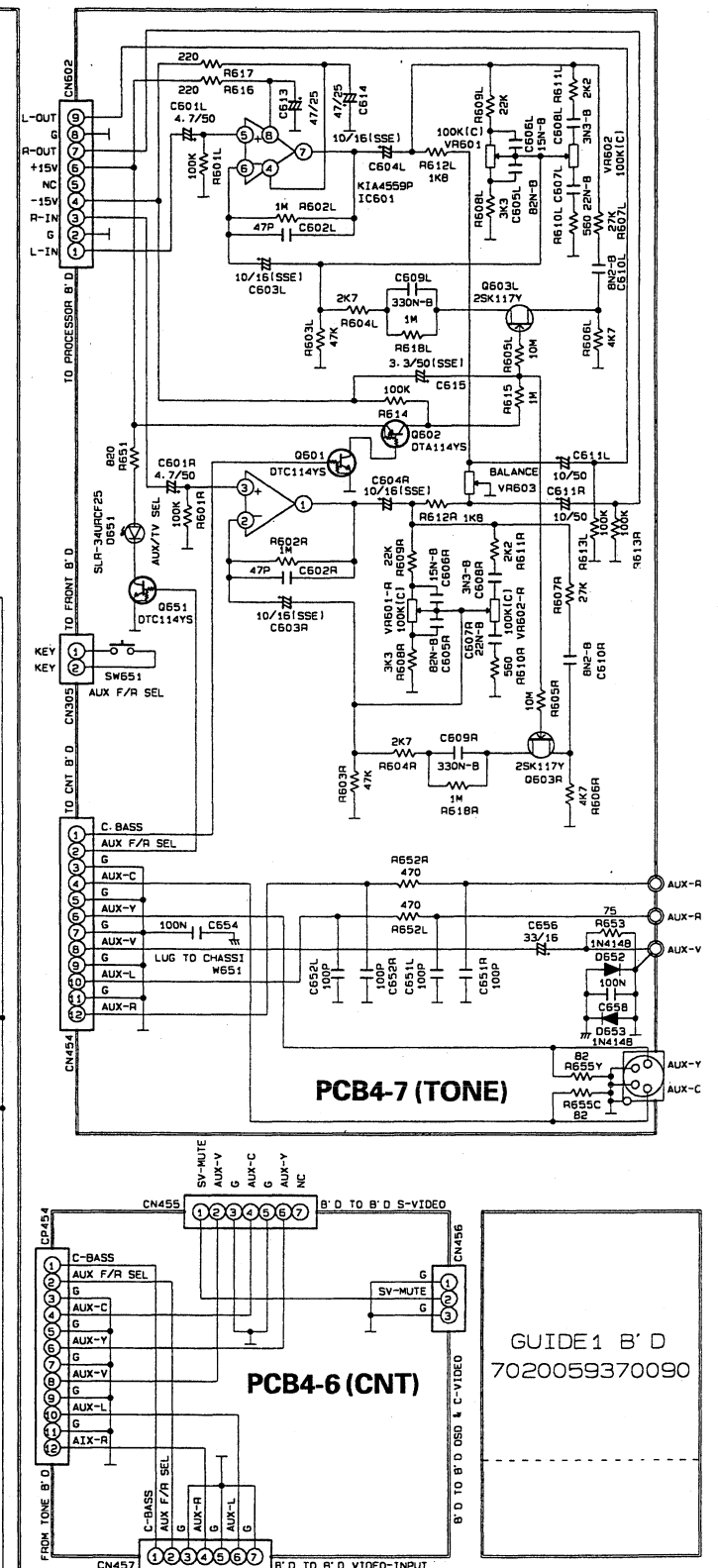
# DTS BLOCK



## PIN CONNECTION DIAGRAM OF DIODES, TRANSISTORS AND ICS

<b>74HC76</b> <b>MC14053</b> <b>MC14094</b> 	<b>LC7821</b> <b>LC7822</b> <b>LC7536</b> 	<b>DSP56009</b> 	<b>LM7001</b> <b>TDA7330</b> 
<b>LA3401</b> <b>LA1266</b> 	<b>NJM2068</b> 	<b>KIA4559P/KIA7555P</b> <b>NJM4580L</b> 	<b>PM4007A</b> 
<b>CS4226</b> 	<b>KA7815</b> <b>KA7806</b> <b>KA7805</b> 	<b>NM27C010</b> 	<b>SK117</b> 
<b>2SA1360</b> <b>2SC3423</b> 	<b>KA7915</b> <b>KA7905</b> 	<b>DTA114YS</b> <b>DTC114YS</b> <b>KRA107M</b> <b>DTC323TS</b> <b>2SC3199Y</b> <b>2SC1740</b> <b>KTA1267</b> 	<b>2SC5200</b> <b>2SA1943</b> 
<b>KTC2240/KTC3200</b> <b>KTC1923V/KTC3194</b> <b>KTA1268</b> 	<b>MC14577</b> 	<b>IN4003</b> <b>IN4148</b> 	<b>MC74HCU04</b> 

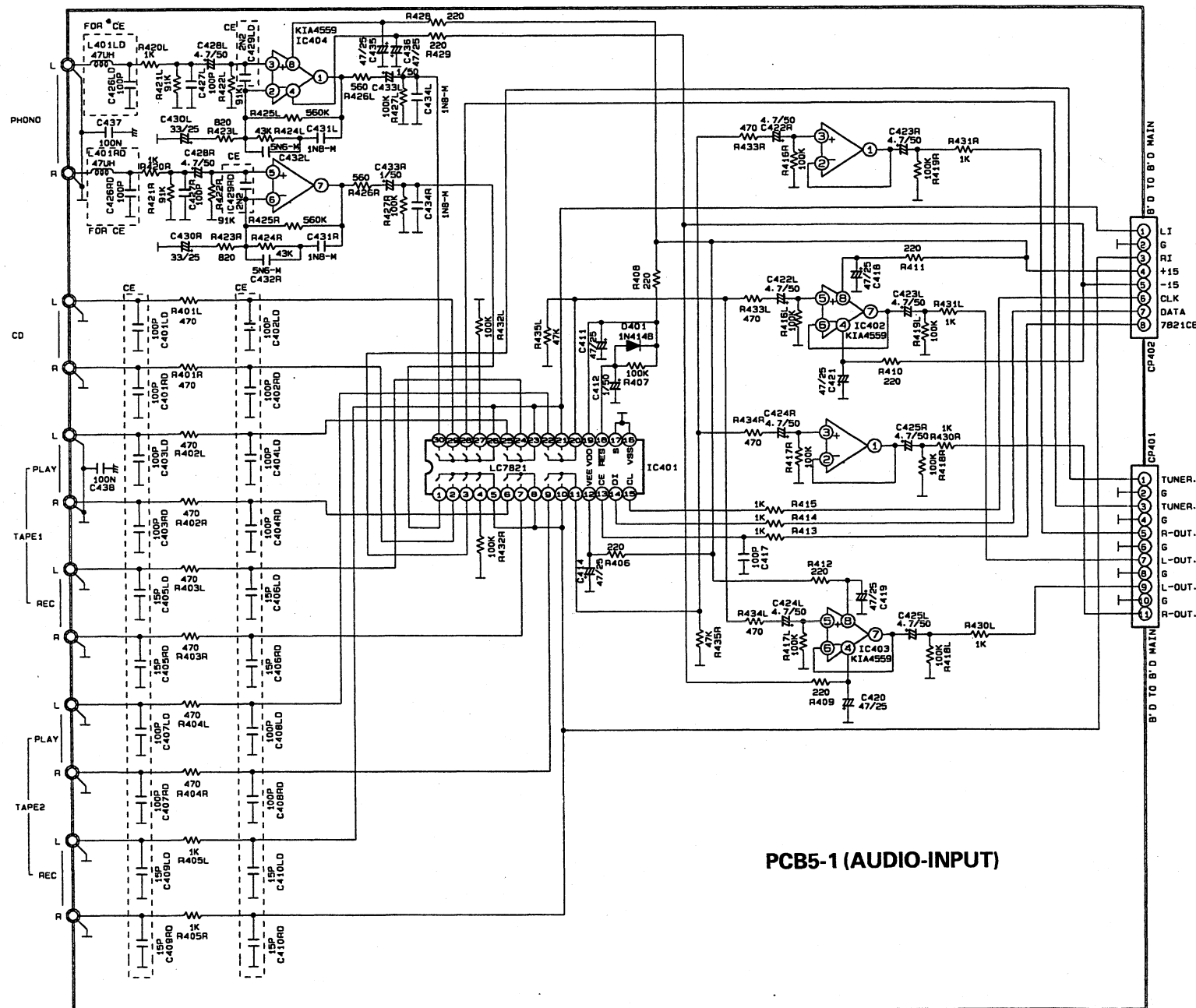
**Model No. : R-945R/R-945RDS**



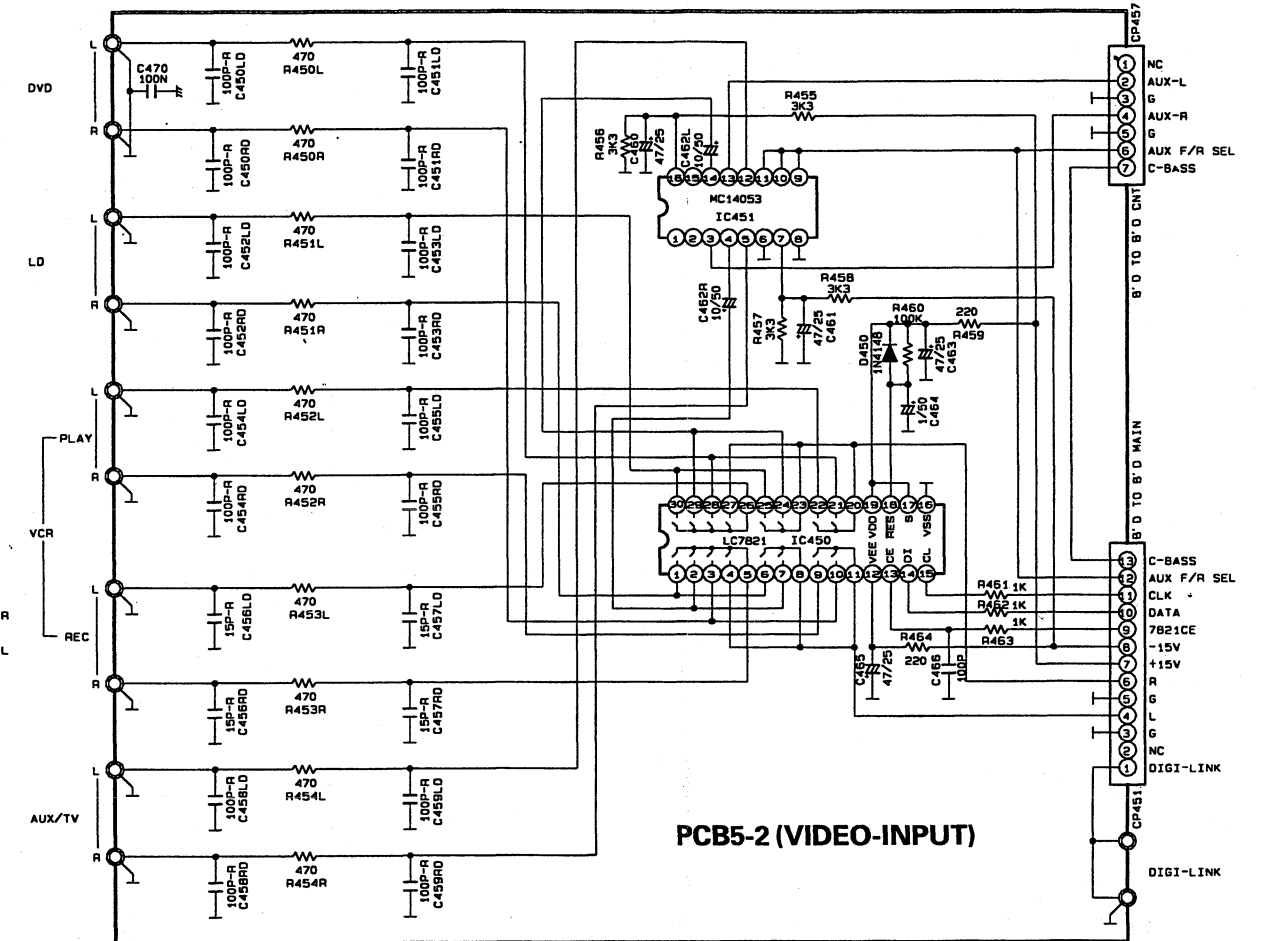
# SCHEMATIC DIAGRAM (V)

Model No. : R-945R/R-945RDS

PCB5 (INPUT)



PCB5-1 (AUDIO-INPUT)



PCB5-2 (VIDEO-INPUT)

7020059380030  
AMP GUIDE1 B'D

7020059380040  
AMP GUIDE2 B'D



**Model No. : R-945R/R-945RDS**



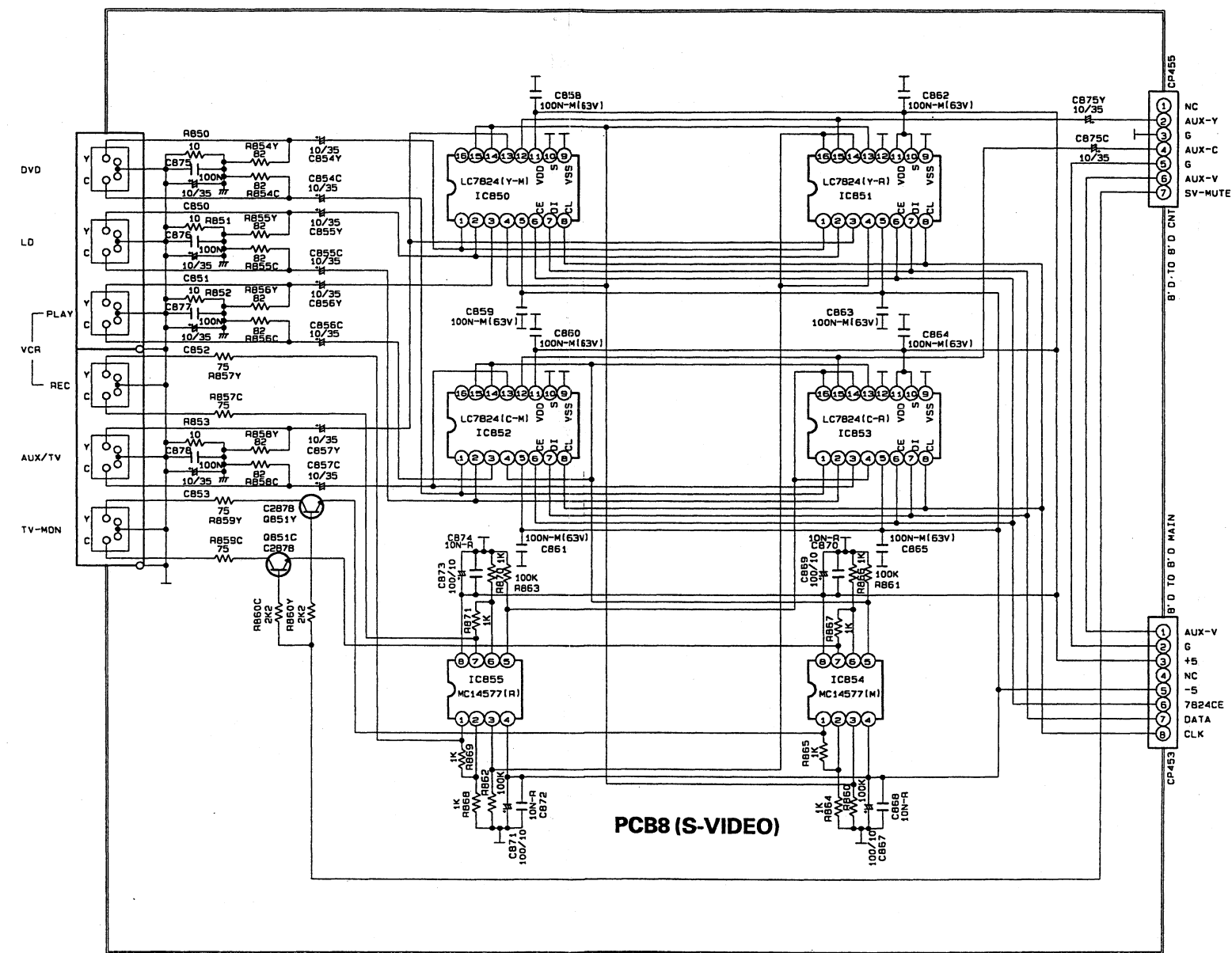
**Model No. : R-945R/R-945RDS**





SCHEMATIC DIAGRAM (VIII)

Model No. : R-945R/R-945RDS



**Model No. : R-945R/R-945RDS**



**Model No. : R-945R/R-945RDS**

